GLOBAL OCCUPATIONAL STANDARDS FOR GHG PROFESSIONALS

VERSION 1.0 - 2026

ECO
Foundation

CONTENTS

ABOUT ECO FOUNDATION

The ECO Foundation is a charitable organization dedicated to advancing environmental education, supporting research, and removing barriers to careers in the environmental sector. Established with a commitment to safeguard our planet's future, promote sustainable practices, and empower the next generation of environmental leaders, we equip individuals with the knowledge, skills, and opportunities to thrive in a green economy. To learn more, please visit: https://ecofoundation.ca/

ACKNOWLEDGEMENTS

ACKNOWLEDGEMENTS

This Global Occupational Standard (OS) would not have been possible without the support of the GHG professionals who contributed to its success.

We would like to acknowledge the valuable contribution of the individuals who reviewed the occupational standard and provided input and suggestions for improvement:
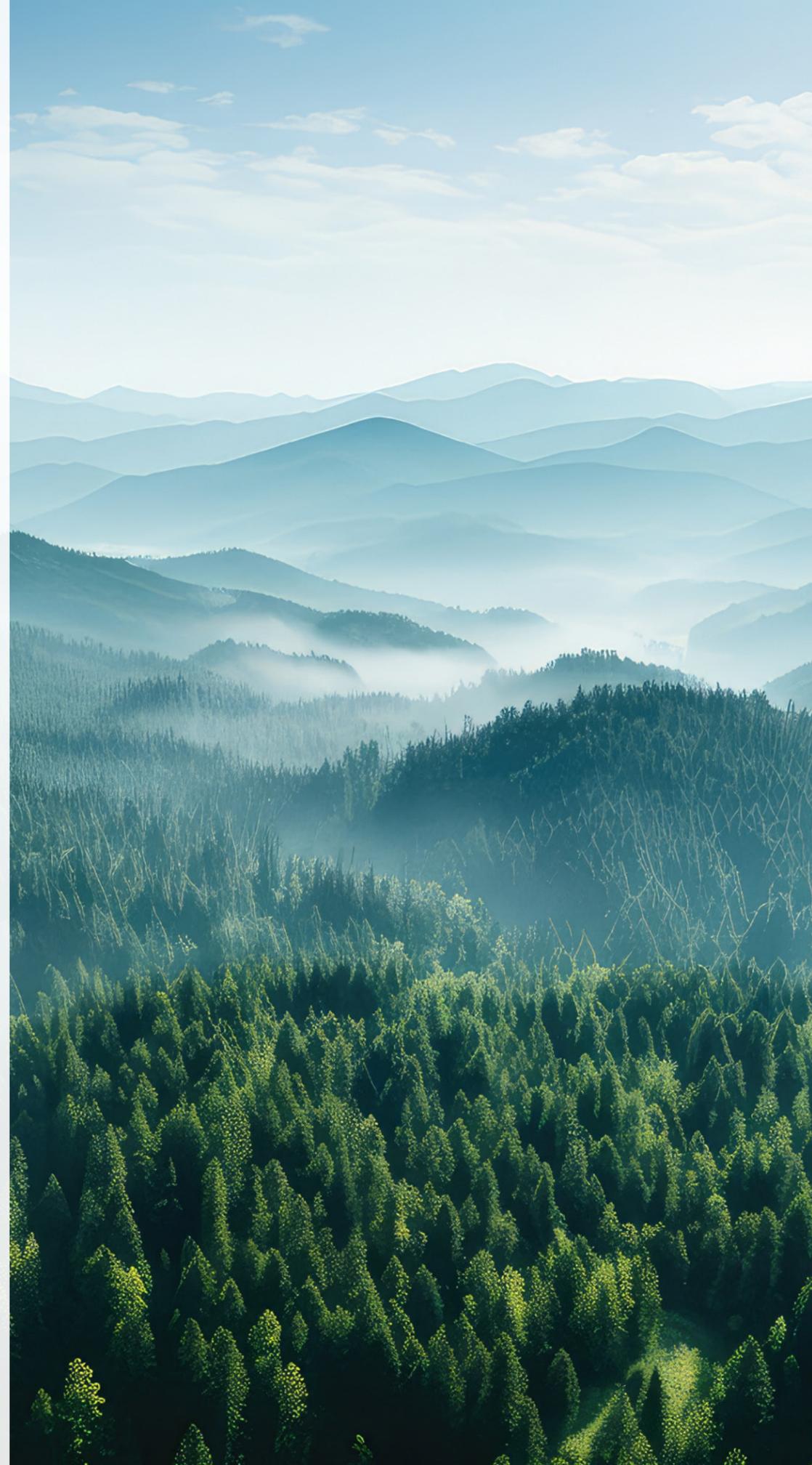
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Barnett, Erika	**GHG Management Institute**
Barlow, Brenna	**British Consulate General Calgary**
Begum, Most Shirina	**Trent University**
Bouwknecht, Kyle	**Synergy Enterprises**
Chand, Deepitika	**Planet Nexus Consulting, Fiji**
Clarke, Jason	**Anthesis LLC**
Colbert-Sangree, Tani	**GHG Management Institute**
Dhankhar Kalyan, Komal	**Norquest College**
DeVink, Jean-Michel	**Aries Environmental Consulting**
Edwards, Bryce	
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Geneviève, Pascal	**CCG**
Gillenwater, Michael	**GHG Management Institute**
Goldman, Kathryn	**GHG Management Institute**
Hanle, Lisa	
Harris, Graham	**Firefly GHG Consulting**
Hoskins, Mikayla	**Buro Happold**
Lucero Acosta, Juan Manuel	**Ministry of Environment, Panama**
MacKinnon, John	**Persefoni AI Inc.**
Melling, Kirsten	**Buro Happold**
Monisit, Antonio	**Anthesis LLC**
Reed, Paul	**En-Vision**
Richmond, Jo	**CK Hutchison**
Shmarin, Sergii	**Aether Ltd**
Shopley, Jonathan	
Swamidoss, Joycelyn	
Turnbull, Shannon	
Venezia, John	**ICF**
White, Molly	**GHG Management Institute**

EP®(GHG) TECHNICAL WORKING GROUP MEMBERS

The Technical Working Group (TWG) played a critical role in shaping this OS by providing expert input and sector-informed guidance. Specifically, TWG members:

- Reviewed key program documents, including eligibility requirements, occupational standards, and assessment processes for applicants
- Provided feedback on how to ensure the program reflects real-world GHG work and professional standards
- Offered insight into additional program elements such as high-quality training criteria and core exam knowledge areas

The working group consists of experienced professionals from diverse sectors and from around the world, including:

- Current and former EPs with GHG expertise
- Distinguished GHGMI alumni
- Representatives from companies and government agencies with expertise in GHG management and policy
- Environmental consultants and auditors working in GHG quantification, verification, and validation
- Academics and researchers in climate and GHG management

We acknowledge and thank the following TWG members for their time and dedication to this initiative:

Cummis, Cynthia	
Edwards, Bryce	
Franceschini, Lauren	**Google**
Goodwin, Justin	
Hanle, Lisa	
Harris, Graham	**Firefly GHG Consulting**
Moffat, Joby	
Paddock, William	
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Richmond, Jo	**Group Head of Sustainability - Europe and Telecoms, CK Hutchison**
Shopley, Jonathan	
Smith, McKenna	**Head of Validation, SBTi**
Turnbull, Shannon	
von Schilling, Bodo	**von Schilling Forest Management Ltd.**

INTRODUCTION

The global demand for reliable greenhouse gas (GHG) accounting, reporting, analysis, and verification is growing rapidly, driven by expanding voluntary and regulatory activities such as GHG reporting, carbon markets, Environment, Social and Governance (ESG) disclosures, net-zero transition planning, and supply chain assessments. Under the Paris Agreement, countries must also strengthen their GHG reporting and mitigation tracking through more rigorous Biennial Transparency Reports (BTRs), intensifying the need for technical capacity. With this growth comes a critical challenge: ensuring the profession is supported by well-qualified, ethical, and technically proficient practitioners. At the same time, employers across sectors require a clear and credible set of indicators or capabilities to guide hiring, workforce development, and professional recognition in this specialized and increasingly vital field.

In response, ECO Foundation engaged the Environmental Careers Organization of Canada (ECO Canada) to research the competencies required for GHG accounting, reporting, analysis, and verification, and develop and validate a comprehensive global occupational standard for GHG professionals.

This Global Occupational Standard for GHG Professionals, Version 1.0, is designed to serve a wide range of stakeholders and contribute to a range of sector-specific activities and research, including:

- Providing the foundation of the global EP®(GHG) certification;
- As a self-assessment tool for employers and practitioners;
- As a program development tool for guiding curriculum development in post-secondary environmental programs and training courses;
- To assist in career development initiatives as concrete illustrations of job requirements for students considering work in this area;
- As a structural framework to collect information about environmental employment in employer demand studies; and
- To provide benchmarks for tasks that may become more critical in the future.

This work will help ensure the global GHG workforce across Asia, Africa, Europe, North America, South America, and Australia/Oceania is equipped to support credible climate action and meet the demands of a fast-evolving global landscape.

WHAT ARE OCCUPATIONAL STANDARDS?

Occupational Standards (OS) are industry-developed and validated documents that identify and group competencies associated with a particular occupation (in this case, GHG professionals) at a particular point in time. They also describe the knowledge and skills that a worker must demonstrate to be considered competent. An occupational standard is updated as the required occupational knowledge and skills changes within the profession.

The guiding principles for creating the OS include:

Focus on Competencies

OS should be outcome-based, performance-driven, and developed with industry input to reflect the real-world skills and knowledge required for effective job performance.

Clarity and Usability

OS should use clear, measurable language that supports assessment and ensures comprehensive coverage of the competencies needed for the occupation.

Relevance and Currency

OS should stay up to date with current practices while anticipating future workforce needs, offering flexibility across diverse work and learning contexts.

When developing OS for GHG professionals, it is also important to integrate the ethical principles that guide professional behavior and to ensure the standards are inclusive and accessible, supporting equitable participation in the occupation.

APPLICATIONS FOR OCCUPATIONAL STANDARDS FOR GHG PROFESSIONALS

This OS for GHG professionals provides the foundation for the global EP®(GHG) certification and can also be utilized by a wide range of stakeholders to standardize and enhance GHG-related practices.

Employers and Organizations
Organizations across all sectors can use the standard to strengthen internal governance, manage talent, and ensure quality assurance in environmental activities.

Strategic Organizational Applications

- Competency Benchmarking: Assess current internal environmental and GHG competencies in relation to globally recognized frameworks (such as IPCC, ISO 14064, UNFCCC, and SBTi).
- Gap Analysis: Conduct analysis to identify discrepancies between current organizational practices and desired competency levels, establishing baseline measurements for continuous improvement initiatives.
- Quality Assurance and Governance: Integrate competency language directly into environmental governance structures and performance management systems. This strengthens readiness for third-party verification, other assurance processes, and regulatory audits.
- Process Alignment: Align internal processes with recognized GHG competency frameworks and standards.

Human Resources and Talent Management

- Recruitment and Selection: Develop comprehensive job descriptions with specific competency requirements for GHG-related positions. The standard supports evidence-based hiring decisions aligned with organizational environmental goals.
- Workforce Planning: Guide professional development planning for staff engaged in carbon accounting, GHG reporting, and ESG activities. It supports succession planning and career progression for environmental professionals, building organizational resilience.
- Performance Management: Implement competency-based performance evaluation systems using clear behavioral indicators.
- Career Development: Design career progression frameworks and transparent career ladders for environmental and sustainability professionals, from entry-level to advanced specialist roles.

PRACTITIONERS (INDIVIDUALS)

GHG professionals and those aspiring to certification can use the OS for personal development and professional recognition.

- Self-Assessment: Use the OS as a self-assessment tool to benchmark individual skills against the framework.
- Professional Development: Establish Continuing Professional Development (CPD) requirements tied to standard competencies.
- Lifelong Learning: Support lifelong learning commitments that benefit all organizational stakeholders.

EDUCATION AND TRAINING PROVIDERS

Academic institutions and training providers can leverage the OS to develop curricula that meet industry needs.

- Curriculum Development: Use the OS as a program development tool to guide curriculum development in post-secondary environmental programs and training courses.
- Instructional Design: Provide reference materials for instructional design in environmental management programs.
- Vocational Qualifications: Support the development of vocational qualifications and competency-based training programs.
- Industry Alignment: Enable alignment between educational outcomes and current industry requirements.
- Career Guidance: Assist in career development initiatives by offering concrete illustrations of environmental employment for students considering work in this area.

POLICY, REGULATORY, AND RESEARCH STAKEHOLDERS

- Regulators, policymakers, and research bodies can use the standard to integrate competency requirements into measurement, reporting, verification, and compliance provisions.

OCCUPATIONAL STANDARDIZATION AND CONTINUOUS IMPROVEMENT

The OS facilitates shared understanding and ongoing refinement of practice across the profession.

- Standardization and Consistency: Ensure transparency and consistency in GHG-related activities across organizations and networks. The OS enables the comparability of competencies across different jurisdictions and frameworks.
- Monitoring and Evaluation: Establish mechanisms to monitor adherence to competency standards.
- Knowledge Transfer: Facilitate knowledge transfer and best practice sharing among practitioners.

COMPETENCY GLOSSARY

Competency: a demonstrated behaviour originating from the application of one's **knowledge, skills,** and **abilities** to the task at hand; it expresses what must be done consistently to produce the intended results.

Performance statement: a specific action that an individual would undertake on the job to demonstrate that they meet the competency in question.

Competency profile: a subset of all competencies and performance statements that apply to a particular role.

Knowledge: an individual's theoretical and practical understanding of a subject, including facts, information, and principles gained through education or experience. Examples include an understanding of climate science fundamentals and the ability to apply emissions quantification formulas.

Skills: practical, measurable abilities acquired through education, training, or experience that enable individuals to perform tasks or activities effectively. Examples include time management, reasoning, and communication.

Abilities: personal attributes and innate qualities that contribute to effectiveness in performing tasks or roles and reflect a person's capacity (such as physical, mental, or legal) to carry out an activity that is not necessarily the result of formal experience or training. Examples include integrity, self-confidence, and cooperation.

Task: an activity that produces a measurable result, such as compilation of data, choosing emission factors, gathering stakeholder feedback, or writing a report.

COMPETENCY ARCHITECTURE

The GHG Professional OS is built on a foundation of core knowledge and competencies to support the practice of GHG professionals and the outcomes that they generate.

Each competency includes a clear description written using a standardized structure: **Do What? To What? To Achieve What?** Competencies are supported by performance statements, which describe actions that a GHG professional would undertake on the job to show that they meet the competency in question. This methodology aligns with North American and European best practices for developing competency statements and occupational standards. A full description of the methodology used to develop the OS can be found in **Appendix A.**

Core knowledge broadly describes the fundamental concepts, principles, and facts that all GHG professionals must know, regardless of their specific role, specialization, or sector. This knowledge underpins competent performance in any GHG-related function and ensures a shared foundation of understanding across the profession.

Technical Competencies are demonstrated behaviours originating from the application of knowledge, skills, and abilities that enable an individual to work, function, and succeed in a specific environmental role.

For example, technical competencies for a GHG verifier might include the process-mapping of GHG data collection and reporting processes, as well as variance analysis and testing. Similarly, for a GHG inventory preparer, technical competencies could involve using GHG data management systems, performing GHG emissions calculations, determining appropriate sources of emissions factors, making assumptions and data interpolation or extrapolations, or applying quantification protocols or frameworks.

Personal & Professional Competencies are demonstrated behaviours originating from the application of knowledge, skills, and abilities that enable an individual to be successful working with others and fulfilling their responsibilities as a GHG professional. These include cognitive, social, and affective aspects and practices required for an individual to function successfully in a role but are not necessarily specific to that role.

For example, GHG professionals require clear communication to convey complex technical findings to diverse audiences, and professional judgement to ensure the impartiality and credibility of GHG assessments.

Legal, Policy, and Regulatory Competencies are demonstrated behaviours originating from the application of knowledge, skills, and abilities that enable an individual to ensure their work complies with prescribed practices and mandated obligations under applicable laws, regulations, and industry standards.

For GHG professionals, examples include ensuring adherence to national GHG reporting regulations, applying international standards such as ISO 14064 or the GHG Protocol, or verifying that projects meet requirements under carbon market mechanisms or climate policies.

This occupational standard reflects a comprehensive range of competencies. Depending on their role or employer, a qualified GHG professional may not need to demonstrate all the competencies listed in this occupational standard. However, a GHG professional should be able to demonstrate many of these, while recognizing areas of relative strengths and weaknesses, so that additional resources can be added to their teams as needed to ensure all relevant competencies are represented fully.

Additional guidance on the specific competencies and knowledge relevant to specific roles is outlined in several Occupational Profiles that accompany this OS. The **EP®(GHG) Applicant Guide** provides further details on how **EP®(GHG)** applicants are assessed against the core knowledge elements and competencies for their self-identified specialization.

DEFINITION OF A GHG PROFESSIONAL

A GHG professional meets a minimum of high ethical standards, core competencies, and essential knowledge. A GHG professional may carry out one or more professional roles. For example, a researcher, quantifier, reporter, policymaker, capacity builder, verifier/auditor, standards developer, etc. A GHG professional may be responsible for one or more of the following activities:

- **GHG Inventory Accounting and Reporting** – Quantify, report, and verify GHG emission and removal information using accepted protocols to ensure accurate, transparent, consistent, complete, credible, and appropriately comparable disclosures.
- **GHG Project/Intervention Development, Accounting, and Reporting** – Analyze, design, and implement projects using accepted protocols to avoid GHG emissions or enhance removals, usually for the purpose of being issued carbon credits for uses such as offsetting.
- **GHG Validation, Verification, and Auditing** – Conduct independent and objective evaluations of GHG accounting and reporting using accepted protocols to assess accuracy, completeness, consistency, transparency, and conformance and ensure credibility of reported outcomes.
- **GHG Mitigation** – Analyze, design, and implement strategies to reduce or avoid GHG emissions and increase or enhance removals to support climate goals and improve environmental performance.

- **GHG Data and Methods** – Provide specialized support in areas such as data management, tool and methodology design, or emission factor development to enhance GHG management systems.
- **Climate Standards, Policy, and Regulations** – Develop, navigate, and interpret climate standards, policies, and applicable regulations to ensure compliance and inform strategic decision-making.
- **Climate Strategy** – Align organizational objectives with climate action plans to support long-term decarbonization and climate resilience.
- **Climate Finance** – Analyze investments to support climate mitigation.
- **GHG Capacity Builder** – Provides the training, tools, or institutional support to effectively carry out one or more of the previously described activities.

This definition of GHG professional currently excludes other professional roles contributing to climate change adaptation efforts. Future updates to this OS will consider integrating supplemental knowledge and competencies GHG professionals need to understand climate risks and vulnerabilities, design and evaluate adaptation strategies, incorporate climate data and models into planning, engage stakeholders across sectors and communities, and apply interdisciplinary, systems-based approaches that enhance resilience and support informed decision-making.

COMPETENCIES

TECHNICAL COMPETENCIES

> **Technical competencies** are demonstrated behaviours originating from the application of knowledge, skills, and abilities that enable an individual to work, function, and succeed in a specific environmental role.

GHG Inventory Boundary Definition and Alignment

Define and align inventory boundaries, including organizational and operational boundaries and scopes, as well as other quantification boundaries with relevant GHG accounting standards, guidelines, and organizational GHG management objectives and intended uses by intended users to ensure relevance, completeness, consistency, transparency, accuracy, and appropriate comparability in GHG inventory reporting.

- Define inventory boundaries, including selecting and applying an appropriate consolidation approach (equity share, financial control, or operational control) to ensure time-series consistency and appropriately comparable GHG reporting.
- Define GHG quantification and reporting boundaries by identifying categories of sources and sinks to be quantified to ensure all relevant direct and indirect emission sources and sinks are included, with any exclusions justified in line with the applied GHG accounting framework.
- Align emission and removal category and scope definitions with recognized standards (e.g., IPCC, GHG Protocol Corporate Standard, ISO 14064-1) to ensure appropriate and consistent categorization (e.g., Scope 1, Scope 2, and Scope 3 emissions).
- For product level analyses, identify and select appropriate life-cycle stages and GHG emissions sinks, sources, and reservoirs at each life-cycle stage to ensure comprehensive and accurate inclusion of all relevant emissions and removals in the GHG assessment.

- Document data collection and calculation processes and procedures, including all assumptions made to maintain transparency and support verification.
- Perform base year recalculations as required (e.g., due to methodology or data changes, corporate mergers or divestments) to maintain the accuracy, time series consistency of historical emissions data.
- Identify, review, and resolve data quality issues and risks stemming from overlaps or miscounting from sources (e.g., Scope 3 category overlaps, double counting) to ensure accurate definitions aligned with the applicable methodological standards and guidelines (e.g., IPCC, ISO, GHG Protocol) and to minimize greenwashing or reputational risks.

Project/Intervention GHG Accounting Boundary and Scenario Definition and Alignment

Define project/intervention boundaries for baselines and mitigation scenarios with applicable project-based or other impact quantification GHG accounting standards and objectives to ensure relevance, completeness, consistency, transparency, accuracy, and appropriate conservativeness in quantifying and reporting GHG impacts.

- Define project/intervention boundaries in accordance with applicable GHG accounting standards and guidelines (e.g., GHG Protocol for Project Accounting, ISO 14064-2) to ensure all relevant sources, sinks, and reservoirs are included and exclusions are justified.
- Define baseline and mitigation scenarios to address functional equivalence where applicable, enabling accurate comparisons of baseline and mitigation scenarios.

- Establish ex ante and/or ex post emission scenarios with documented assumptions to enable transparent and defensible quantification of expected emissions and removals over the project/intervention impact quantification timeframe.
- Document quantification methodologies, data sources, and calculation procedures to maintain transparency and facilitate independent validation and/or verification.

GHG Emissions and Removals Quantification

Select data and apply scientifically robust GHG quantification methods to generate relevant, verifiable, and standards-compliant[1] emissions and removals estimates in accordance with the key principles of GHG accounting (transparency, accuracy, completeness, consistency, and appropriate comparability).

- Select and apply quantification approaches aligned with GHG boundaries and scenarios to ensure methodologies are appropriate for the level of detail required (e.g., for sources and sinks).
- Define data inputs and values needed to estimate emissions and removals in baseline and mitigation scenarios for consequential (e.g., project or intervention) emissions quantification.
- Derive and identify appropriate emission factors and measurement approaches for specific emission sources, activities, or processes to support accurate and standards-aligned GHG quantification.
- Evaluate and select emission factors and measurement approaches against applicable GHG accounting standards, methodologies, and data quality requirements to ensure methodological appropriateness and regulatory compliance.
- Document selected emission factors, measurement approaches, and any conservative assumptions applied within GHG inventories or project documentation to ensure transparency and consistency with recognized GHG accounting principles.
- Integrate climate science and global warming potentials (GWPs) into emission and removal quantification to align with actual circumstances.
- Choose and document appropriate GWPs to quantify emissions and removals in CO_2-equivalent units.
- Calculate GHG emissions and removals using emission factors, activity data, measurement data (e.g., direct sampling, geospatial data) to produce accurate, consistent, and standards-aligned GHG quantification results.

- Select and operate appropriate emissions and removals estimation software, digital tools, and models when generating quantifiable GHG results to ensure outputs are verifiable, reproducible, and aligned with applicable GHG accounting standards.
- Evaluate, choose, and document appropriate quantification methods to minimize uncertainty, given the available data, while considering technical feasibility and cost.
- Apply appropriate GHG quantification methods to ensure emission and removal calculations are within in keeping with applicable standards, guidelines, and methodologies and can be verified.
- Conduct sensitivity analyses to justify the use of a generic quantification method and/or data over a more specifically representative method and/or data.
- Conduct uncertainty assessments on data and emissions and removals calculations to improve transparency, identify opportunities where uncertainty may be reduced, and support conservative decision-making.
- Identify and document corroborating evidence to support data selection, assumptions, and calculations.
- Integrate knowledge of carbon markets, their compensation or contribution mechanisms, and applicability to specific contexts and regions.
- Predict emissions and removals using historical trends, other proxy parameters, and scenario modeling to estimate emission changes over time.
- Apply extrapolation and recognized techniques to fill in gaps in emissions and removals time series (e.g., IPCC splicing techniques), where appropriate.

## Data Management, Quality Assurance, and Quality Control

Design and manage GHG data systems with quality assurance processes and control checks to enhance data quality, including identifying errors, non-compliance, improvement opportunities, and ensuring audit readiness of emissions and removal reporting.

- Design and manage GHG data systems and management plans aligned with applicable standards, guidelines, and methodologies to collect, store, and safeguard emissions data, ensure consistency across time series, and support audit readiness.
- Operate digital measurement, reporting, and verification (MRV) platforms and emissions-related data acquisition systems (e.g., Continuous Emissions Monitoring Systems (CEMS)) that collect, validate, model and manage emissions data through automated version-controlled data streams to enable accurate and auditable emissions measurement and reporting that supports compliance, assurance, and decision-making.
- Apply IT and procedural controls to protect data confidentiality and integrity, mitigate liability risks, and apply QA/QC good practices.

- Conduct and prioritize materiality analyses, hotspot reviews, and data quality assessments across all data types to ensure completeness, accuracy, and timeliness.
- Review measurement instruments, sampling protocols, and quantification approaches to reduce uncertainty and maintain methodological rigor.
- Document all data collection, methodologies, calculations, assumptions, audit trails, and data lineage to ensure transparency, reproducibility, and audit readiness.
- Plan, organize, and execute data collection, processing, and reporting activities efficiently, using analytical tools to produce reliable insights and high-quality outputs.

Reporting and Stakeholder Engagement

Develop and align GHG reports, disclosures, and strategies with stakeholders' intended uses and regulatory frameworks to enhance transparency, credibility, and decision-making.

- Compile GHG reports aligned with applicable regulations and standards (e.g., SBTi, ISO 14060, Paris Agreement's Enhanced Transparency Framework) to fulfill compliance and disclosure requirements or voluntary commitments.
- Integrate GHG data and stakeholder input (e.g., value chain partners, government agencies) into disclosures and align reporting objectives with stakeholder needs to support public and investor confidence, regulatory readiness, and decision-making.
- Communicate GHG results, claims, and forecasts transparently and objectively, including key assumptions, benefits, trade-offs, and mitigation strategies, to provide stakeholders with credible, actionable information.

- Facilitate stakeholder input to enhance accuracy, completeness, transparency, relevance, and time series consistency.
- Collaborate with Indigenous and impacted communities to integrate their perspectives, knowledge, and priorities into GHG reporting and decision-making, ensuring transparent, respectful, and culturally meaningful communication that supports stakeholder and regulatory requirements.

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[1] See Table 1 for a list of applicable GHG accounting standards.
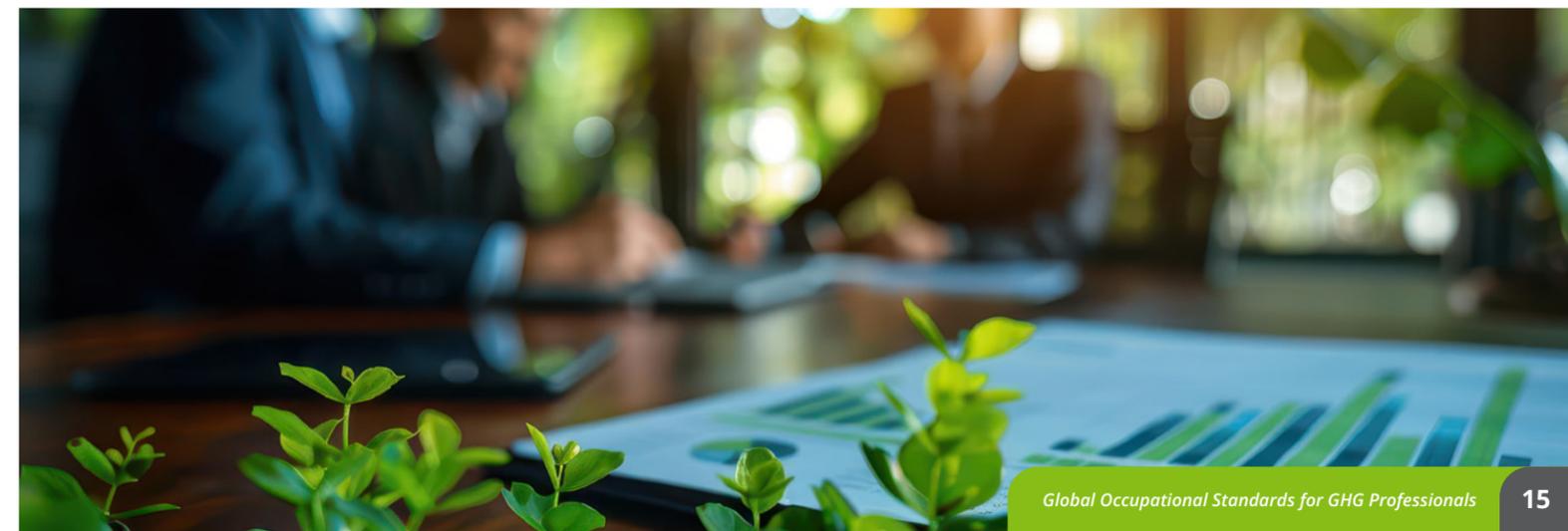
Plan GHG Validation, Verification, or Audit Engagements

Define and plan GHG validation, verification, or audit engagements, including internal verification-readiness systems, in alignment with applicable standards, agreed scope, and assurance objectives to ensure assurance activities are consistent, fit-for-purpose, and capable of delivering credible, defensible conclusions..

- Define and document audit fundamentals (e.g., level of assurance, objective, criteria, scope, and materiality) to support consistent planning, execution, and reporting by the assurance team.
- Communicate defined audit scope and objectives (including assurance levels and materiality thresholds) to ensure validation/verification is fit-for-purpose and meets stakeholder requirements.
- Share relevant assurance risk assessments, data, and internal controls to inform the auditing team's planning and to highlight areas of potential error or misstatement.

- Supply documentation, records, and evidence required for auditing engagements to ensure consistency with the agreed audit scope, criteria, and objectives.
- Coordinate and support planning of reasonable and efficient timelines for engagement processes to ensure that activities occur in the correct order with enough time to perform technical operations.
- Adhere to applicable audit standards and requirements (e.g., required auditor rotations, conflict of interest rules, and regulatory limits) by disclosing relevant organizational information that enables the auditing team to maintain compliance with engagement methodology.

Evaluate Findings and Form Conclusions

Evaluate GHG data, controls, and findings to identify errors, omissions, misstatements, or non-conformities to form defensible assurance conclusions that meet professional, legal, and stakeholder requirements.

- Evaluate data, controls, and anomalies to identify risks to ensure defensible conclusions.
- Identify errors, omissions, and misstatements, and assess materiality of outcomes (quantitative & qualitative) to determine impact.
- Use graphical techniques and/or statistical methods to identify anomalous data that require further investigation.
- Identify non-conformities or control weaknesses to enable corrective action and improve reporting.

- Assess whether errors/non-conformities are material to determine their impact on conclusions.
- Include assessed uncertainties in findings to highlight possible risks and strengthen conclusions' transparency and reliability.
- Form and justify a validation/verification/audit opinion and ensure it is supported by sufficient and appropriate evidence to meet professional and legal requirements.

Report and Assure Quality of GHG Verification Outcomes

Communicate and quality-assure GHG assurance results, as audited by independent auditors, through clear reporting and independent review to build stakeholder trust, support corrective actions, and enhance the credibility of GHG disclosures.

- Produce a transparent and evidence-based record of findings and communicate to the reporting entity to enable corrective action, enhance integrity, and enhance informed use of reported information by stakeholders.
- Produce a verification statement or assurance report that references the process and outcomes to provide stakeholders with clear, credible, and traceable conclusions with actionable insights for decision-making.

- Coordinate with independent reviewers/auditors to ensure that assurance outcomes are assessed for completeness, accuracy, and alignment with applicable standards.
- Communicate lessons learned from assurance activities and advise on actions to improve future GHG verification quality and strengthen stakeholder confidence.

Execute GHG Validation, Verification, or Audit Engagements

Conduct GHG validation, verification, or audit activities by applying recognized assurance principles, evidence-gathering techniques, and sector-specific knowledge to confirm the accuracy, completeness, and conformance of GHG data, statements, and assertions with applicable standards.

- Apply verification principles (impartiality, evidence-based approach, fair presentation, documentation, conservativeness) to guide decision-making to support credible outcomes.
- Apply an objective, evidence-based approach to all assurance activities to maintain impartiality and credibility.
- Follow a documented and transparent process to ensure consistency, traceability, and compliance.
- Apply sector-specific requirements to ensure reported GHG information reflects the operational and regulatory context.
- Collect documented evidence, perform interviews, and conduct site visits to support findings.

- Review GHG quantification/accounting/reporting arrangements (e.g., boundaries, baselines, sources, methodologies, controls) to ensure conformance.
- Review data management systems and QA/QC to verify reliability.
- Confirm the application of representative emission factors as found in authoritative sources (e.g., IPCC emission factor database).
- Evaluate, identify, and manage audit risks associated with data systems and the materiality of the emission sources and removal sinks.
- Manage and direct auditors efficiently through the entire engagement process from hiring, contracting, addressing requests, and identifying auditor shortcomings.

Project Design and Monitoring Systems

Design GHG mitigation projects and monitoring systems using established protocols and instrumentation to ensure reliable quantification, data quality, and environmental integrity.

- Design GHG mitigation projects/interventions in alignment with approved methodologies to enable credible quantification and verification of avoided emissions and enhanced removal impacts.
- Evaluate the additionality of GHG mitigation projects to ensure environmental integrity.
- Incorporate permanence and leakage considerations into project design to enhance environmental integrity.
- Integrate understanding of how changes to project/intervention parameters affect emissions and removals to provide informed and effective advice on project/intervention decisions.

- Establish monitoring systems tailored to baseline and mitigation scenario profiles to support consistent and accurate data collection.
- Apply and oversee recognized protocols and methodologies to ensure reliable and verifiable emissions data.
- Define QA/QC roles and responsibilities in monitoring plans to maintain data quality and verification readiness.
- Apply recognized methods for uncertainty and risk analysis to evaluate monitoring data and strengthen confidence in report results.

PERSONAL & PROFESSIONAL COMPETENCIES

Personal & Professional Competencies are demonstrated behaviours originating from the application of knowledge, skills, and abilities that enable an individual to be successful working with others and fulfilling their professional responsibilities.

Critical Thinking

Conduct structured, objective analysis of data, assumptions, and sources to assess information reliability and support evidence-based decision-making in complex situations.

- Conduct multi-source research to collect relevant data and information for informed decision-making.
- Analyze data objectively to derive accurate insights and support defensible conclusions.
- Differentiate between facts, assumptions, and inferences to assess the quality and reliability of information.
- Apply professional skepticism to evaluate the credibility of assumptions and evidence submitted by responsible parties.
- Make timely decisions based on careful consideration of relevant data, risks, and potential outcomes.

- Integrate knowledge of the social impacts of GHG work on communities and ecosystems to provide a system-based approach to activities.
- Balance attention to detail with awareness of the broader industry context to support sound judgement and informed decision-making.
- Apply systems thinking to identify emission sources, removal sinks, reduction opportunities, and linkages across operations to support effective, science-based GHG management and decision-making.

Communication

Deliver clear, accurate, and context-sensitive written and verbal communications tailored to audience needs to convey technical information and support effective engagement.

- Prepare clear, well-formatted written materials to align with internal communication and operation protocols and effectively communicate to the intended audience.
- Use respectful and culturally appropriate verbal and nonverbal language to communicate clearly and maintain effective interactions.
- Apply effective interviewing techniques to gather accurate and complete information for use in verification or assessment activities.
- Interpret and convey technical information clearly, concisely, using accessible language to ensure understanding and prevent misinterpretation by technical and non-technical audiences.

- Deliver presentations using appropriate content and format to meet the specific needs of diverse target audiences.
- Communicate GHG emissions, reductions, and removals with complete and transparent disclosure of assumptions, methodologies, and associated uncertainties to ensure results are clearly understood, credible, and suitable for stakeholder decision-making and assurance.

Professional Judgement

Apply ethical, impartial, and current professional standards to technical and procedural decisions to ensure credible, defensible, and trustworthy outcomes.

- Maintain current knowledge of GHG practice requirements to apply up-to-date standards.
- Demonstrate ethical conduct as defined in GHG principles and standards (e.g., ISO 14064-3, GHG Protocol Principles, GHGMI Professional Code of Conduct) during all professional activities to build trust and uphold the integrity of work.
- Document conflicts-of-interest and maintain impartiality and independence from program authorities or proponents to ensure unbiased, evidence-based findings.

- Demonstrate self-reliance and motivation in managing daily responsibilities to maintain consistent performance and reliability.
- Apply ethical judgment to statutes and norms to identify questionable practices and seek guidance to uphold professional standards.
- Apply expert judgement using the most current standards, guidance, and best practices to make informed decisions when GHG standards and guidelines lack clear direction.

Internal Collaboration

Work cooperatively and constructively with colleagues and internal teams to coordinate efforts and integrate perspectives to achieve successful project completion and strengthen organizational performance.

- Work effectively in teams to coordinate efforts to deliver successful outcomes.
- Seek out internal experts to provide professional inputs and opinions to improve the quality of outputs and operational strength.

- Manage challenging situations with diplomacy and empathy within internal teams to maintain constructive working relationships.
- Navigate organizational processes and structures to overcome barriers to support project and organizational success.

Stakeholder Engagement

Engage cooperatively and diplomatically with external stakeholders, including Indigenous and affected communities and organizations, to build trust, integrate diverse perspectives, and resolve challenges to share data, take mitigation action, strengthen projects, promote alignment, and support long-term, respectful collaboration.

- Engage cooperatively with diverse stakeholders (e.g., value chain partners, data suppliers, implementation partners, investors, affected communities) to address challenges to align efforts toward successful project completion.
- Cooperate with external stakeholders to integrate diverse perspectives and Indigenous knowledge to strengthen approaches and ensure culturally appropriate outcomes.
- Seek out external experts, Indigenous knowledge holders, and community representatives to provide inputs and perspectives to improve outputs, credibility, and mutual understanding.

- Manage stakeholder relationships with diplomacy, empathy, and cultural respect to address conflicts or concerns to maintain constructive, trust-based engagement.
- Navigate inter-organizational and intercultural complexities to overcome barriers to achieve collaborative, equitable, and sustainable solutions.
- Demonstrate respect for Indigenous rights, protocols, and governance structures in project planning and engagement to foster reconciliation and long-term partnerships.

Change Management

Anticipate, plan for, and support organizational or client transitions in GHG management practices, regulations, and technologies to minimize resistance, build commitment, and ensure lasting adoption of emissions reduction measures.

- Monitor regulatory, policy, and market developments to identify impacts on GHG management practices to enable timely organizational response.
- Assess organizational readiness for change to identify capacity, culture, and barriers to plan effective interventions.
- Develop change management strategies and timelines to align with project, organizational, and regulatory requirements to ensure realistic implementation.
- Explain drivers of change (e.g., standards, reporting obligations) to diverse stakeholders to build a shared understanding of necessity.
- Translate technical changes to accessible formats to enable comprehension across different audiences.
- Facilitate dialogue and consultation with internal and external stakeholders to build trust and ownership of new practices.

- Adapt implementation approaches based on stakeholder feedback and progress to overcome resistance and improve uptake.
- Coordinate with cross-functional teams to align GHG management changes with organizational priorities to ensure integration into operations.
- Embed changes into standard procedures, policies, and reporting systems to sustain long-term adoption.
- Evaluate change initiatives against intended outcomes to identify lessons learned and improve future efforts.
- Recommend continuous improvements to organizational practices and systems to maintain compliance and advance decarbonization goals.

Leadership, Oversight, and Strategic Coordination

Lead and/or coordinate within cross-functional teams and verification programs to ensure technical excellence, organizational alignment, and delivery of climate and sustainability goals.

- Lead and/or coordinate within teams in the compilation, review, and strategic enhancement of GHG quantification and mitigation activities in compliance with applicable standards, guidelines, and GHG program rules (e.g., compliance with IPCC guidelines and UNFCCC reporting requirements).
- Oversee GHG inventory or project implementation timelines and budgets to deliver results within organizational, stakeholder, or regulatory expectations.
- Review and/or approve emissions data for publication to ensure alignment with technical standards and organizational integrity.

- Coordinate peer reviews and approvals to validate technical soundness and consistency across deliverables.
- Align GHG program activities with strategic climate objectives to drive progress toward national, regional, or organizational sustainability goals.
- Lead the planning, coordination, and execution of projects by setting clear objectives and managing resources and timelines to achieve high-quality outcomes that align with organizational goals.

LEGAL, POLICY, & REGULATORY COMPETENCIES

Legal, Policy, & Regulatory Competencies are demonstrated behaviours originating from the application of knowledge, skills, and abilities that enable a professional to ensure their work complies with prescribed practices and mandated obligations under applicable laws, regulations, and industry standards.

Regulatory Compliance

Interpret and apply jurisdictional GHG reporting and verification requirements to organizational systems and activities to ensure legal compliance (mandatory and voluntary), data defensibility, and audit readiness.

- Review and be aware of legal and voluntary obligations and reporting requirements (e.g., materiality or significance thresholds, organizational boundary requirements, specific global warming potential (GWP) values, deadlines, etc.) for each GHG-emitting activity or process within the defined inventory or project boundary to ensure full compliance with obligations and requirements.
- Interpret and apply jurisdictional GHG reporting and verification requirements to national, regional, or organizational systems and activities to ensure legal compliance, data defensibility, and audit readiness.
- Integrate knowledge of carbon market mechanisms into evaluations with full recognition of possible financial and operational impacts on the organization.
- Maintain awareness of legal and reputational greenwashing risks that accurate/defendable claims help to mitigate.
- Develop and maintain or support the development and maintenance of transparent emissions information and documentation in accordance with regulatory requirements and good practice to facilitate regulatory submissions and independent verification.

- Collaborate with disclosure to ESG reporting teams to ensure GHG disclosures satisfy relevant regulatory or voluntary frameworks, without necessarily assuming full responsibility for overall ESG reporting.
- Coordinate the preparation and submission of GHG disclosures in accordance with relevant regulatory or voluntary frameworks to satisfy legal, compliance, or stakeholder reporting obligations.
- Advise internal or external stakeholders on how to align operational practices with current and emerging GHG regulations to reduce compliance risk and facilitate lawful business conduct.
- Establish or support internal systems for monitoring, tracking, and reporting GHG emissions in accordance with recognized regulatory principles and practices to ensure auditability and transparency.
- Evaluate the legal and jurisdictional implications of GHG accounting boundaries and reporting structures to correctly define the scope of GHG inventories or project activities.

Standards and Policy

Analyze and respond to GHG and relevant climate-related standards, policies, and mechanisms at multiple governance levels, to guide organizational strategy, ensure voluntary and mandatory compliance, and contribute to GHG mitigation goals.

- Analyze existing and emerging environmental standards and policies at global, national, and subnational levels to assess potential impacts on GHG mitigation responsibilities and opportunities.
- Translate GHG and related policy objectives into organizational or project-level actions to support compliance, risk management, or strategic planning in the context of decarbonization.
- Monitor developments in international climate agreements and associated mechanisms (e.g., cooperative approaches or market-based mitigation efforts), to inform national contributions and reporting obligations.

- Assess the influence of policy mechanisms (e.g., taxes, cap-and-trade systems, sectoral targets, financing and funding programs) on GHG performance and financial ramifications of emission reductions and carbon credits to guide decision-making and strategic investment.
- Participate in policy dialogue and consultation processes with standards developers, governments, regulators, NGOs, communities, and other stakeholders to represent organizational interests and contribute to GHG-related regulations and frameworks that align with climate and policy objectives.

GHG Accounting and Legal Structures

Identify and interpret legal, financial, and contractual arrangements that affect GHG allocation and reporting boundaries, to ensure accurate, consistent, and credible GHG accounting.

- Identify and interpret how legal structures, contracts, and financial relationships affect GHG allocation, boundary setting, and the eligibility of emissions and removals to ensure consistency and transparency in reporting.
- Evaluate structural changes, corporate relationships, and lease agreements to determine organizational boundaries for GHG accounting and reporting, ensuring emissions are allocated according to recognized quality principles.
- Maintain awareness of registry and reporting platform eligibility requirements (e.g., national and sub-national MRV systems) to ensure proper registration and treatment of emissions or removals, in collaboration with disclosure teams.
- Assess and document organizational accountability for GHG emissions and removals within legal and contractual arrangements to establish a defensible basis for reporting and verification and to ensure time series consistency.

- Document and disclose assumptions used in GHG inventories and mitigation analyses to ensure transparency and mitigate risks of misrepresentation.
- Perform and review accounting activities with keen attention to detail to catch accounting errors and other operational mismanagement that could lead to risks of greenwashing and misrepresentation.
- Ensure project/intervention-based GHG accounting and mitigation claims comply with applicable laws, registry rules, and contractual arrangements, working with legal and disclosure teams to clearly establish ownership of avoided emissions or enhanced removals, supporting defensible and transparent reporting.

CORE KNOWLEDGE

Core knowledge broadly describes the fundamental concepts, principles, and facts that all GHG professionals must know, regardless of their specific role, specialization, or sector. This knowledge underpins competent performance in any GHG-related function and ensures a shared foundation of understanding across the profession.

The knowledge areas and associated elements presented in this section represent the baseline knowledge expected of GHG professionals and provide a reference point for education, training, and certification. The level of understanding required for each knowledge element may differ across roles and stages of professional experience. Entry-level professionals or technical specialists may be expected to demonstrate a practical or applied understanding of core principles, focusing on accurate execution of defined methods and procedures. Intermediate practitioners often apply a broader conceptual understanding, integrating multiple knowledge areas to support analysis, decision-making, and problem-solving within defined scopes of work. Senior professionals and GHG managers are expected to demonstrate strategic and integrative understanding, interpreting complex regulatory frameworks, guiding methodological choices, and ensuring alignment with organizational or project-level GHG objectives.

Knowledge Area	Knowledge Element
Climate Science and GHG Principles	Fundamentals of climate change science, including greenhouse gas behavior, radiative forcing, global warming potentials, and the technological, biological, and physical systems affecting emissions and removals.
	Climate change science in relevant sectors and sector-specific impacts, and the advancements of climate change science and its impact on the sector.
	Direct and indirect emissions and the use of scopes in GHG emission categorization.
	GHG data quality principles (as established in the IPCC Guidelines, GHG Protocol, and ISO 14064-3) of accuracy, comparability, completeness, consistency, relevance, and transparency, and their application in both voluntary and mandatory compliance contexts.
	How emissions and removals are reflected in GHG accounting frameworks and the role of quantification in supporting mitigation analysis and planning, policy development, and progress tracking under international and domestic climate frameworks.
GHG Accounting, Reporting, and Assurance Principles	Common GHG accounting principles such as accuracy, comparability, completeness, consistency, relevance, and transparency as applied to GHG emissions quantification and reporting.
	The requirements of GHG accounting frameworks and standards (i.e., GHG Protocol, ISO 14064, IPCC guidelines).
	Allocational and consequential accounting frameworks and their differences and similarities, including the types of accounting within those frameworks (e.g., national, subnational, corporate, project-level, product LCA, etc.).
	Key project/intervention GHG accounting concepts such as conservativeness, functional equivalence, leakage, additionality, dynamic/static, and permanence, and how they relate to baseline scenario selection.
	Voluntary and mandatory GHG programs, systems, and accounting frameworks, and their requirements (see Table 1 for a list of applicable GHG accounting standards).

Knowledge Area	Knowledge Element
Organizational, Project-Level, and Product-Level Quantification	The goals, scopes, limitations, and interpretations of GHG quantification at the organizational, project, and product levels, including Product Carbon Footprints (PCF) and life cycle assessments (LCAs).
GHG Inventory Compilation and Review	IPCC methodological Tier 1–3 approaches, selection of appropriate methods, application of default and country-specific emission factors, and sourcing, validating, and processing activity data across key sectors (e.g., Energy, IPPU, Agriculture, LULUCF, Waste).
	Techniques to maintain methodological consistency across years and document recalculations in line with IPCC guidance.
	Proficiency with IPCC Inventory Software, UNFCCC Common reporting tables, and Biennial Transparency Reports (BTRs).
	How to conduct key category analysis using level and trend assessments, apply uncertainty assessment methods, and interpret results to guide decision-making and prioritize inventory improvements.
	Technical nuances such as fugitive emissions in oil and gas, carbon stock changes in land use, and methane recovery in waste management.
GHG Inventory Compilation and Review	The principles and applications of GHG models, scenario analysis, and projection tools.
	How to use GHG models, scenario analysis, and projection tools to generate emissions forecasts, evaluate mitigation pathways, and support strategic decision-making, while considering assumptions, uncertainties, and limitations.
GHG Verification and Validation Concepts and Techniques	Verification principles such as impartiality, evidence-based approaches, fair presentation, documentation, and conservativeness.
	Verification/validation activities and techniques, including risk assessment, data and information sampling, and assessment of GHG data control systems.
	Levels of assurance and materiality.
	How to identify sufficiency of objective evidence.
	Requirements for recordkeeping and documentation during the inventory process to ensure outputs are prepared for auditor activities and third-party requests.
	The process for completing a verification.

Knowledge Area	Knowledge Element
Data Quality, Uncertainty Management, and Risk	Inventory and project/intervention data quality management, uncertainty assessment, and materiality thresholds to ensure integrity in GHG data, measurements, and verification outcomes, along with familiarity with QA/QC procedures and interpretation of technical review outcomes as complementary processes supporting data credibility.
	Basic statistical concepts and quantitative methods to interpret GHG data, evaluate uncertainty, and analyze large datasets.
	The professional responsibility to maintain data integrity and security with specialized roles requiring advanced certifications (e.g., ISO 27001, SOC 1/2).
Mandatory and Voluntary GHG Reporting for Entities	How GHG reporting supports climate risk disclosure, corporate sustainability, and environmental compliance, including coordination of reports and responses to relevant programs or stakeholders.
GHG Market Mechanisms and Environmental Claims	The principles behind carbon trading, credits, and offsetting, including their methodological foundations.
	Environmental product declarations (EPDs), claims, and labels, and how they inform GHG reporting and sustainability communication.
	The role of Energy Attribute Certificates (EACs) in GHG accounting in keeping with recognized standards to support accurate, transparent, and auditable disclosures.
	The principles and rules governing GHG markets and market mechanisms, including how to account for mitigation outcomes or carbon credits under applicable cooperation frameworks (See Table 1 for a list of applicable GHG accounting standards), track the legal transfer and use of emissions reductions, and prevent double counting.
	Eligibility criteria for GHG projects and credits, including additionality, permanence, and leakage, to support compliance, market access, and climate finance.
	The principles, rules, and standards governing GHG markets, mechanisms, and reporting requirements in renewable energy accounting (e.g., RECs, RE100), environmental commodities, and voluntary initiatives.
Systems Thinking and Sustainability Integration	How GHG emissions and removals relate to organizational activities, supply chains, and broader sustainability objectives.
National GHG Measurement, Reporting, and Verification	The essential methodological components of IPCC Guidelines for National Inventories. For example, source category descriptions, methodological choices, recalculation justifications, and QA/QC procedures.
	The structure and purpose of the Paris Agreement, UNFCCC reporting requirements, Modalities, Procedures and Guidelines (MPGs) for the Enhanced Transparency Framework (ETF), and IPCC Guidelines.
	QA/QC procedures, including internal checks, third-party reviews, archiving, and continuous improvement mechanisms as outlined in the MPGs and IPCC guidelines.
	How GHG inventories interface with types of international climate policy reporting. For example, Nationally Determined Contributions (NDCs), Long-Term Low Emission Development Strategies (LEDS), Biennial Transparency Reports (BTRs), and National Communications (NCs).

Knowledge Area	Knowledge Element
Sector-Specific GHG Sources and Quantification Methods	The goals, scopes, limitations, and interpretations of GHG quantification at the organizational, project, and product levels, including Product Carbon Footprints (PCF) and life cycle assessments (LCAs).
	Options for methodologies, monitoring, estimation, sampling, and calibration procedures, and trade-offs between options within a sector.
Direct Measurement	Laboratory procedures for analyzing material or fuel composition to derive emissions factors, including quality control of sampling and analysis.
	Types of meters and analyzers that are used to measure flow rates and determine gas or material composition; typically required in technical or engineering roles.
Control of IT Systems for Information Security	Information system controls and IT security measures applicable to data management in GHG reporting environments.
Auditing and Controls for GHG Data	Auditing methodologies, sampling techniques, control systems, IT and information security, and the evaluation of material anomalies in the context of GHG data systems.
GHG Target Setting	Engaging in target-setting activities, including within contexts where accounting methods or voluntary/regulatory frameworks are changing. For example, current changes include understanding indirect emissions (e.g., Scope 3), particularly as they relate to target-setting practices in corporate and organizational contexts. Or, understanding NDC indicator development as it relates to countries meeting their GHG target.
Equity and Stakeholder Engagement	How GHG activities affect communities and stakeholders, applying principles of equity and inclusion to identify risks, co-benefits, and opportunities for socially responsible climate action. This may include knowledge of stakeholder rights, governance structures, and cultural norms.
	Approaches for integrating stakeholder perspectives, traditional knowledge, and priorities into GHG reporting, engagement, and decision-making processes.
Mitigation and Decarbonization Strategies	Mitigation and decarbonization strategies, including energy efficiency, renewable energy deployment, fuel switching, carbon capture and storage (CCS), and nature-based solutions.
	How decarbonization strategies are applied in corporate GHG inventories and net-zero planning in alignment with recognized standards (e.g., SBTi Corporate Net Zero Standard, ISO 14060 net zero aligned organizations, ISO 14068-1:2023, Climate Change Management — Transition to Net Zero).

TABLE 1

Examples of Relevant Standards

Accounting level	Relevant standards
Facility-level inventory	Regulator specified, often based on relevant IPCC Inventory Guidelines
National inventory	IPCC Inventory Guidelines for UNFCCC reporting
	2006 IPCC Guidelines for National GHG Inventories
	2019 Refinement to the 2006 IPCC Guidelines
	Decisions 18/CMA.1 (MPGs) and 5/CMA.3 for Paris Agreement reporting
Sub-national inventory	GHG Protocol for Cities: Community Scale GHG Inventories
Municipal level inventory	Local Government Operations Protocol for the quantification and reporting of GHG emissions inventories (ICLEI)
Corporate GHG inventory	ISO 14064-1
	ISO 14064-3 (validation and verification)
	ISO TR 14069 (guidance on applying ISO 14064-1)
	GHG Protocol Corporate Standard
	GHG Protocol Scope 2 Guidance
	GHG Protocol Corporate Value Chain Scope 3
Corporate, climate risk disclosure	IFRS S2 Climate-related Disclosures by International Sustainability Standards Board
	Regulator-specified standards: e.g., European Sustainability Reporting Standards (ESRS), California Corporate Data Accountability Act, US SEC ruling (dormant)
	ISO 14068-1
	Partnership for Carbon Accounting Financials (PCAF)
	CDP reporting protocols
	Global Reporting Initiative (GRI)

Accounting level	Relevant standards
Project-level assessment	ISO 14064-2
	ISO 14064-3 (validation and verification)
	GHG Protocol for Project Accounting
	GHG Protocol LULUCF Project Accounting
	GHG Protocol Grid Connected Electricity Project Accounting
	Numerous project-specific protocols established by various programs
Mitigation outcomes	GHG Protocol Mitigation Goal Standard
	GHG Protocol Policy and Action Standard
	UNFCCC A6 SDM
	ICROA
	VCMI
	ICVCM
	IPI Insetting Standard
Mitigation assessment, national or subnational	IPI Insetting Standard
	GHG Protocol Policy and Action Standard
	Initiative for Climate Action Transparency (ICAT) Policy Assessment Guides
Mitigation assessment, corporate level	SBTi Corporate Net Zero Standard
Mitigation assessment, corporate level	GHG Protocol Product Life Cycle Accounting and Reporting Standard
	Low-carbon fuel standard reporting requirements
	ISO 14040
	ISO 14044
	ISO 14067
	ISO 14068

Key Terminology in GHG Accounting

Allocational accounting: Assigns emissions and removals to entities based on physical flows and ownership. Used to create inventories of emissions by sources and removals by sinks (for example, corporate GHG inventories, national GHG inventories, and traditional product life cycle assessments). Typically referred to as attributional LCA in the context of product-level life cycle GHG accounting.

Avoided emissions: Emissions that are prevented from occurring due to a particular action or intervention (e.g., renewable energy deployment displacing fossil fuel use).

Carbon capture and storage (CCS): A technology that helps reduce greenhouse gas emissions by catching carbon dioxide (CO_2) emissions from human activities before they enter the atmosphere.

Carbon credits: A tradable financial instrument that is issued by a carbon crediting program, representing avoided GHG emissions or enhanced removals, equivalent to one metric tonne of carbon dioxide equivalent. Carbon credits are typically serialized, issued, tracked, and retired or administratively cancelled by means of an electronic registry operated by an administrative body, such as a carbon crediting program.

Carbon credit retirement: The permanent removal of a carbon credit in a registry for the purpose of claiming the associated avoided emissions or enhanced removals toward compliance requirements or voluntary goals.

Carbon dioxide removal (CDR): Deliberate human activities that extract carbon dioxide (CO_2) from the atmosphere and durably store it in geological, terrestrial, or oceanic reservoirs, or in products. Excludes natural CO_2 uptake (e.g., unmanaged forests) and focuses on human-driven interventions. Reservoirs for captured carbon must be durable, i.e., sequestered for decades to millennia, distinguishing CDR from transient carbon capture.

Carbon offsetting: The compensation of an entity's GHG emissions (within its allocational GHG boundary, i.e., inventory, accounting boundaries) by retiring an equivalent amount of carbon credits.

Concessionary impact investment: Investments made with below-market returns to enable social or environmental benefits, including GHG reductions.

Consequential accounting: Aims to quantify the change in emissions or removals caused by decisions or interventions. Examples include project-level accounting and consequential life cycle assessment. This type of method is also sometimes called 'intervention' accounting.

Contribution claims: A framing where organizations are recognized for contributing to global GHG mitigation,

rather than claiming ownership over emissions reductions.

Emissions reduction: A decrease in inventoried emissions over time.

Financed emissions attribution: Use attribution factors to calculate investors' and financial institutions' shares of emissions from portfolio companies.

Location-based accounting of purchased electricity (Scope 2): An approach for measuring emissions from purchased electricity that uses average emissions intensity of the grid.

Market-based accounting of purchased electricity (Scope 2): An approach for allocating indirect emissions from purchased electricity that accounts for specific procurement choices (e.g., RECs, PPAs).

Mitigation hierarchy: A framework for prioritizing actions to manage climate action, reinforcing that direct emission reductions and avoidance should precede any offsetting activities.

Mitigation measures: Strategies to cut emissions across sectors like energy, transport, and agriculture.

Mitigation outcome: a mitigation outcome refers to a measurable result of actions that avoid emissions or enhance removals of greenhouse gases, often quantified in terms of metric tonnes of carbon dioxide equivalent (tCO_2e).

Nationally determined contributions (NDCs): Country-specific climate action plans central to the Paris Agreement, outlining each nation's commitments to reduce GHG emissions and adapt to climate impacts. These pledges aim to limit global temperature rise to "well below 2°C" above pre-industrial levels, with efforts to cap it at 1.5°C. NDCs typically detail the country's mitigation measures, climate change adaptation plans, and financial, technological, and capacity-building requirements.

Net-Zero aligned claims: Statements by organizations indicating that their strategies, actions, and targets are consistent with achieving global net-zero emissions by mid-century (typically 2050). A credible net-zero aligned claim means that the organization has near-term and long-term science-based targets, prioritizes deep emissions reductions across its value chain, uses carbon credits or removals only for residual emissions that cannot yet be eliminated, and communicates transparently about boundaries, methods, and progress.

Science-based targets: Greenhouse gas reduction goals set by companies or organizations that align with what climate science indicates is necessary to meet the objectives of the **Paris Agreement** (limiting global temperature rise to well below 2°C above pre-industrial levels and pursuing efforts to limit it to 1.5°C).

APPENDIX A - METHODOLOGY

The *Occupational Standard for GHG Professionals* was developed through a structured, iterative methodology grounded in empirical research, stakeholder engagement, and internationally recognized best practices in occupational analysis.

This approach guided the definition of a high-level competency framework applicable across GHG professions, ensuring relevance and adaptability for quantifiers, managers, verifiers, and related specialists. The framework offers a comprehensive overview of the competencies and knowledge required of GHG professionals, supporting workforce development, professional certification, and the global standardization of GHG-related practices.

The competency framework aligns with leading North American and European systems, including the Occupational Information Network (O*NET), Occupational and Skills Information System (OaSIS), and the European Skills, Competences, Qualifications and Occupations (ESCO).

Step 1: Foundation Building and Gap Analysis
The process began with a review of ECO Canada's Competencies for GHG Professionals: National Occupational Standards, published in March 2011. This document served as the foundational reference for the updated framework and was developed through consultation with many professionals across Canada, including:

• A National Steering Committee formed to guide the direction of the project
• Initial consultations with senior advisors for the purpose of drafting a National Occupational S tandard dictionary
• A national online survey giving practitioners a chance to review competencies and rate their relevance
• Online and onsite focus sessions to discuss and validate the National Occupational Standard and other outcomes of the survey

The Greenhouse Gas Management Institute (GHGMI) conducted a gap analysis of **Competencies for GHG Professionals: National Occupational Standards** to identify areas where the original standard no longer reflected current technologies, practices, or regulatory environments, and provided recommendations for modernization (see Appendices B and C for excerpts from the GHGMI gap analysis).

Complementary research on comparable competency frameworks was undertaken to identify alignment opportunities and remaining gaps. Particular attention was paid to core knowledge areas and transferable competencies, which were refined to ensure broad applicability across all GHG professional roles and functional contexts.

Step 2: Identification of Core Competencies and Knowledge
This phase focused on defining core competencies—the essential abilities that all GHG professionals must demonstrate to perform effectively, regardless of their area of specialization. Technical competencies were reviewed, revised, and organized at a broad level to capture common functions across GHG roles. The framework distinguishes between knowledge and competency:

• Knowledge refers to the theoretical and technical information that professionals must understand.

• Competency describes the demonstrated application of knowledge, skills, and abilities (KSAs) required to perform effectively in practice.

This separation ensures conceptual clarity between what professionals must know and what they must be able to do.

Step 3: Labour Market and Job Description Analysis
To validate and contextualize the draft competency framework, a labour market analysis was conducted using TalentNeuron, a global labour intelligence platform that aggregates job posting data from over 28,000 public sources. GHGMI supplemented this analysis with a curated set of representative job postings drawn from its professional community.

This step identified common skills, qualifications, and employer expectations across GHG-related roles. The findings ensured that the Occupational Standard accurately reflects current market demands and informed adjustments to improve the precision and relevance of the competencies.

Step 4: Subject Matter Expert Validation
The draft Occupational Standard was reviewed by 30 qualified GHG professionals and subject matter experts. Feedback was collected through focus group discussions and written submissions.

This validation process assessed the accuracy, clarity, and practical relevance of each competency, ensuring consistency with current industry practices, regulatory requirements, and professional expectations. Input from validators was systematically analyzed and incorporated into the final framework, enhancing its credibility, applicability, and alignment with the evolving needs of the GHG profession.

APPENDIX B –
GHG REPORTING LANDSCAPE IN 2025[2]

There are approximately twelve different types of GHG reporting programs in use today, driven by mandatory regulatory requirements or voluntary participation for non-regulatory reasons (see Table B-1). Each type of GHG reporting program requires specialized GHG accounting practices, such as national, sub-national, municipal or facility-level GHG inventories; corporate GHG inventories covering direct and indirect emissions; corporate GHG reporting for risk disclosure, which is similar to and potentially a subset of corporate inventories; project-level assessment for carbon credits; organizational or government-level mitigation assessment, and product-specific life cycle analysis. Many of these programs require some form of verification.

The geographic distribution of reporting programs is vast. At least seventeen countries have some type of GHG reporting program at the national level,[3] plus six regions or states within Canada and the USA have programs.[4] In addition, the EU has GHG reporting programs that apply to all 27 member countries. Of the 198 Parties to the UNFCCC, 43 are "Annex-I" parties that are required to report national GHG emissions annually. All 195 Parties to the Paris Agreement have biennial GHG reporting requirements.

This is not a comprehensive list and surely does not include every single country or subnational locale with a GHG reporting program. These numbers also only reflect government-run reporting programs. The organizations and sub-national entities reporting on GHGs on their own or through non-profit-run reporting programs are too numerous to count. However, they do reflect the diversity of contexts and the fact that the need for qualified and ethical GHG accountants is global.
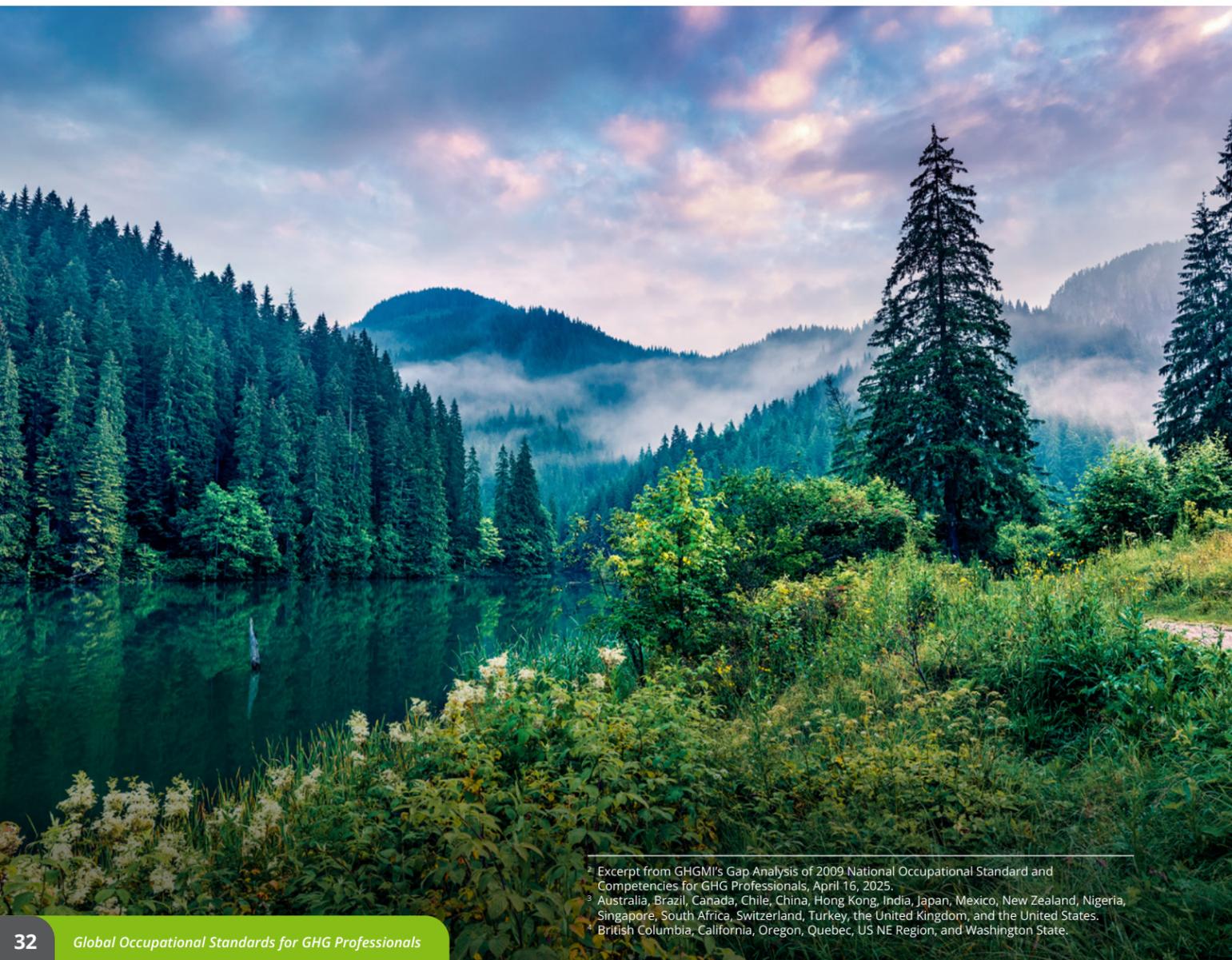
TABLE B-1

Types of GHG reporting programs, context, and type of GHG accounting required

| Type of GHG Reporting Program	Regulatory or Voluntary Incentive Context	GHG Accounting Type	GHG Accounting Level
Large emitter reporting	Mandatory reporting by specified entities under sub-national and national regulations	Allocational	Facility-level inventory
Large emitter emission limits (cap)	Mandatory reporting by specified entities under sub-national and national regulations with limits on amounts of allowable emissions, sometimes paired with the limited option of using carbon credits to comply with limits	Allocational	Facility-level inventory
Large company reporting	Mandatory reporting for companies over a certain size based on financial standing, employee size, or other criteria, for the purposes of understanding organizational emissions. Voluntary reporting by companies occurs also, without limit on size necessarily.	Allocational	Corporate GHG inventory
Climate risk disclosure	Mandatory reporting for companies over a certain size typically based on financial standing for the purpose of understanding climate risk exposure. Voluntary reporting by companies also occurs.	Varies	Corporate, for risk disclosure
Carbon credits	Voluntary mechanism of regulated and voluntary markets: • Cap and trade • Paris Agreement Article 6.4 • Voluntary Carbon Market • CORSIA	Consequential	Project-level assessment
Trading of mitigation outcomes	Voluntary compliance mechanism that under Paris Agreement Article 6.2	Consequential	Unspecified
Reporting Nationally Determined Contributions (NDCs)	Mandatory reporting requirement under Paris Agreement	Varies	Mitigation assessment
National inventory reporting under UNFCCC	Mandatory reporting requirement under UNFCCC	Allocational	National inventory
Community-scale GHG inventory	Voluntary reporting of community-scale GHG emissions by a local government	Allocational	Sub-national inventory
Municipal-scale GHG inventory	Voluntary reporting of GHG emissions associated with municipal government operations	Allocational	Municipal inventory
Corporate GHG reduction goals	Voluntary reporting at the discretion of companies	Varies	Mitigation assessment
National and sub-national GHG reduction goals	Voluntary reporting at the discretion of sub-national and national governments	Varies	Mitigation assessment
Life cycle assessment Carbon footprint of products	Voluntary or mandatory reporting of emissions associated with specific products, e.g., CA's Low carbon fuel standard	Allocational	Product-specific LCA

Each type of GHG accounting has one or more sets of standards/guidelines that provide specific requirements and technical methodologies for how to carry out the measurement, reporting, and verification of GHGs (Table B-2). In regulatory situations, often the regulating entity establishes its own specific rules even if they are based on a recognized standard. Therefore, there is a wide range of specific standards that govern how GHG accounting professionals must do their jobs, which then dictate specific skills and knowledge required. Even so, it is possible to key a job type to each accounting type and associated standards (Table B-2). Generally, a GHG quantifier and/or verifier is needed for each, and more specialized job types can be imagined (Table B-2).

TABLE B-2

GHG accounting types, standards, and jobs associated with carrying them out

Accounting type	Accounting level	Select relevant standards	Job type examples
Allocational	Facility-level inventory	Regulator specified, often based on IPCC National Inventory Guidelines	• GHG inventory quantifier, organizational level • GHG verifier
Allocational	National inventory	IPCC National Inventory Guidelines	• GHG inventory quantifier, reviewer, national level
Allocational	Sub-national inventory	GHG Protocol for Cities: Community Scale GHG Inventories	• GHG inventory quantifier, reviewer, subnational level
Allocational	Municipal level inventory	Local Government Operations Protocol for the quantification and reporting of GHG emissions inventories (ICLEI)	• GHG inventory quantifier, reviewer, municipal operations
Allocational	Corporate GHG inventory	ISO 14064-1 ISO 14064-3 (validation and verification) ISO TR 14069 (guidance on applying ISO 14064-1) GHG Protocol Corporate Standard GHG Protocol Corporate Value Chain Scope 3	• GHG inventory quantifier, organization level, • GHG verifier
Varies	Corporate, climate risk disclosure	IFRS S2 Climate-related Disclosures by International Sustainability Standards Board Regulator-specified standards: e.g., European Sustainability Reporting Standards (ESRS), California Corporate Data Accountability Act, US SEC ruling (dormant)	• GHG inventory quantifier, organization level, with knowledge of climate-risk disclosure standards and financial institutions • GHG emissions attestation provider
Consequential	Project-level assessment	ISO 14064-2 ISO 14064-3 (validation and verification) GHG Protocol for Project Accounting GHG Protocol LULUCF Project Accounting GHG Protocol Grid Connected Electricity Project Accounting Numerous project-specific protocols established by various programs	• GHG quantifier, project-level • GHG project verifier • GHG quantifier of aviation baseline emissions (CORSIA-specific)
Consequential	Mitigation outcomes	Flexible reporting frameworks GHG Protocol Mitigation Goal Standard GHG Protocol Policy and Action Standard	• GHG mitigation assessment quantifier • GHG quantifier of policy impact on GHGs
Varies	Mitigation assessment, national or subnational	GHG Protocol Mitigation Goal Standard GHG Protocol Policy and Action Standard	• GHG mitigation assessment quantifier • GHG quantifier of policy impact on GHGs • GHG inventory quantifier, national or sub-national level
Varies	Mitigation assessment, corporate level	SBTi Corporate Net Zero Standard ISO 14060 (in development)	• GHG mitigation assessment quantifier • GHG quantifier of policy impact on GHGs • GHG inventory quantifier, organization level
Varies	Product-specific LCA	GHG Protocol Product Life Cycle Accounting and Reporting Standard Low-carbon fuel standard reporting requirements	• GHG quantifier, product life cycle
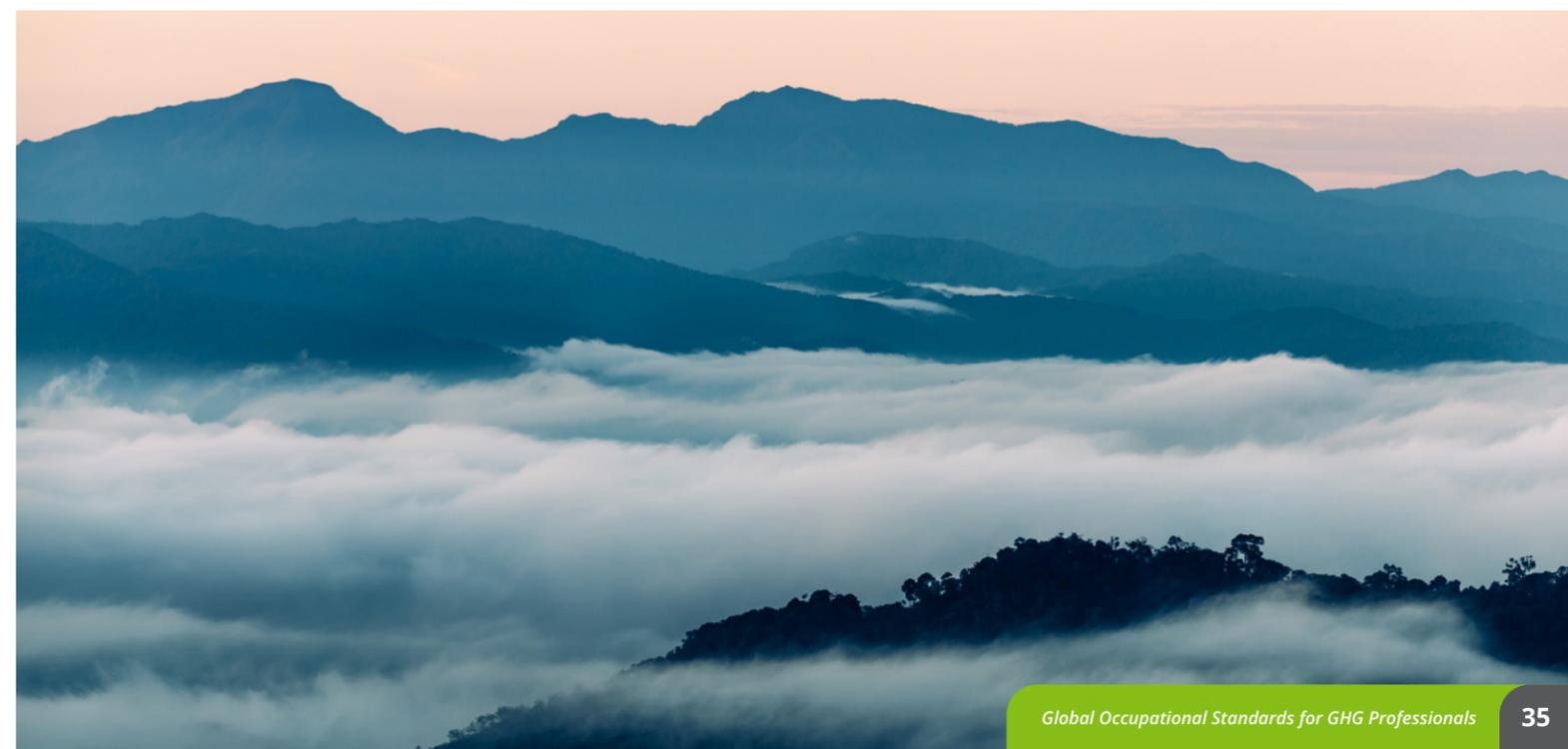
Lastly, the following list is provided as a snapshot of examples illustrating the extensive array of standards, methodologies, guidelines, regulations, and initiatives on GHG reporting from around the world. This list is in no way comprehensive nor necessarily up to date, due to underlying constant change. Although some programs and initiatives may have expired, their methodologies and guidance resources may still play a critical role in GHG work (e.g., the UNFCCC Clean Development Mechanism). There are also many sector-specific methodologies and guidance documents not included in the list below. Generally, a key competency of GHG professionals is their ability to navigate relevant portions of this complex and changing requirements space.

1. International & Cross-Sector GHG Accounting Standards

GHG Protocol (WRI/WBCSD)
• Corporate Standard
• Corporate Scope 2 Guidance
• Corporate Value Chain (Scope 3) Standard
• Scope 3 Technical Guidance (15 categories)
• Project Protocol
• Product Life Cycle Accounting & Reporting Standard
• Mitigation Goal Standard
• Policy & Action Standard
• Land Sector & Removals Guidance (2024)
• GHG Protocol for Cities
• GHG Protocol for Community-Scale Inventories
• GHG Protocol for the Agriculture Sector (draft/various pilots)

ISO Climate Standards
• ISO 14060 Family (GHG management)
  › **ISO 14064-1:** organization-level quantification & reporting
  › **ISO 14064-2:** project-level methodologies
  › **ISO 14064-3:** verification/validation
  › **ISO 14065:** accreditation of VVBs
  › **ISO 14066:** competency of validation/verification bodies
  › **ISO 14067:** product carbon footprint
  › **ISO 14069:** organizational GHG inventories
  › **ISO 14080:** climate actions
• ISO 14044 / 14040 (Life-cycle assessment)
• ISO 14030 (green bonds climate metrics)
• ISO 14083 (transport GHG emissions)

IPCC Guidelines
• 2006 IPCC Guidelines for National GHG Inventories
• 2019 Refinement
• Good Practice Guidance (2000, 2003)
• 1996 Revised Guidelines (legacy programs)
• IPCC Emission Factor Database (EFDB)

Global Disclosure & Reporting Frameworks
• ISSB IFRS S2 (Global baseline climate disclosure)
• IFRS S1 (Sustainability general requirements)
• TCFD (Task Force on Climate-related Financial Disclosures)
• GRI Standards (GRI 305 for GHG emissions)
• CDP Climate Questionnaire
• CDSB Framework
• Integrated Reporting (IIRC)
• WEF Stakeholder Capitalism Metrics
• Climate Disclosure Standards Board (legacy but still referenced)

Climate Target Frameworks
• Science Based Targets initiative (SBTi)
• SBTi FLAG Requirements
• Net-Zero Standards (corporate, financial institutions)

2. Corporate & Facility-Level Regulatory GHG Reporting by Region

North America
United States
• EPA Greenhouse Gas Reporting Program (GHGRP) – 41 subparts
• EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks
• SEC Climate Disclosure Rule
• Federal Methane Fee (Inflation Reduction Act) MRV provisions
• Bureau of Land Management (BLM) methane and waste rules
• FERC transmission and gas system GHG-related requirements
• DOE 45V hydrogen tax credit MRV requirements
• DOE 45Q CCS tax credit MRV (EPA Class VI integration)

State-Level Programs
• California Mandatory Reporting Regulation (MRR)
• California Cap-and-Trade Program
• California Low Carbon Fuel Standard (LCFS)
• Washington Cap-and-Invest Program
• Oregon Clean Fuels Program
• RGGI (11-state CO_2 cap-and-trade)
• New York Climate Leadership and Community Protection Act MRV

Canada
• National Greenhouse Gas Reporting Program
• Output-Based Pricing System (OBPS)
• Federal Carbon Pricing Backstop MRV
• Provincial systems:
  › Alberta TIER
  › British Columbia Carbon Tax & Reporting
  › Québec Cap-and-Trade
  › Saskatchewan OBPS
  › Ontario EWRB (energy & emissions reporting)

Europe
European Union
• EU ETS (MRV under EU Monitoring and Reporting Regulation)
• EU ETS Aviation MRV
• EU ETS Maritime MRV
• EU Effort Sharing Regulation
• EU ESR MRV (non-ETS sectors)
• EU LULUCF Regulation
• EU CSRD + ESRS (E1 = climate standard requiring GHG)
• Energy Union Governance Regulation
• EU Industrial Emissions Directive MRV
• FuelEU Maritime
• Renewable Energy Directive (RED II/III) GHG MRV
• Fit-for-55 package reporting rules
• EU Taxonomy (climate metrics)

United Kingdom
• Streamlined Energy and Carbon Reporting (SECR)
• UK ETS (mirrors EU ETS but with independent MRV)
• Mandatory GHG Reporting for Quoted Companies
• UK Large Companies & LLPs Energy and GHG Reporting

Asia-Pacific
China
• China National ETS (power sector)
• Provincial ETS pilots (Beijing, Shanghai, Tianjin, Chongqing, Fujian, Hubei, Guangdong, Shenzhen)
• NDRC GHG accounting guidelines (sector-specific)
• NEA M&V rules for power plants
• China enterprise-level climate disclosure pilots

Japan
• Mandatory GHG Accounting and Reporting System
• Tokyo Cap-and-Trade Program
• Saitama ETS
• Japanese Corporate Governance Code climate disclosure requirements
• GX League reporting frameworks

South Korea
• K-ETS (Korea Emissions Trading Scheme)
• Target Management System (TMS)
• Korean LCI & carbon footprinting program

Australia
• NGER: National Greenhouse and Energy Reporting
• Safeguard Mechanism (baselines and crediting)
• Australian Carbon Credit Unit (ACCU) scheme MRV
• Mandatory disclosure legislation (under development)

New Zealand
• NZ ETS
• Mandatory climate disclosures for large companies and financial institutions

Latin America
Brazil
• SINIMA reporting
• National GHG Inventories
• Emerging national ETS
• State-level inventories (São Paulo, Rio de Janeiro)

Mexico
• RECCE mandatory reporting
• Mexico ETS (pilot phase completed)
• National Inventory (INECC methodology)

Chile
• National GHG MRV system
• National Inventory
• Chilean ETS (phased rollout)

Colombia
• MRV for carbon tax
• Voluntary carbon registry + regulatory integration

Argentina
• National Inventory
• Sector reporting guidelines

Africa
South Africa
• Mandatory GHG Reporting Regulations
• Carbon Tax Act MRV
• National Inventory updates
• Sectoral carbon budgets

Other African Nations (various emerging MRV systems)
• Kenya (sector MRV models for energy & waste)
• Morocco (national MRV program)
• Ethiopia (CRGE MRV)
• Ghana (transparency framework MRV)

Middle East
UAE
• National GHG Inventory
• ADNOC GHG accounting and methane MRV requirements
• Emirates ETS pilots

Saudi Arabia
• Saudi Inventory
• Circular Carbon Economy MRV frameworks
• Aramco methane MRV disclosure

Qatar
• National MRV system tied to energy sector

3. Offset & Carbon Credit Standards
   (Voluntary + Compliance)
   Major Independent Standards

*   Verra Verified Carbon Standard (VCS)
*   Gold Standard for the Global Goals
*   American Carbon Registry (ACR)
*   Climate Action Reserve (CAR)
*   Plan Vivo
*   Global Carbon Council (GCC)
*   ART-TREES (jurisdictional REDD+)
*   REDD+ under UNFCCC Warsaw Framework
*   Global Emissions Reduction (GER) standard
*   Paris Agreement Article 6 mechanisms

Legacy but still influential
*   Clean Development Mechanism (CDM)
*   JI (Joint Implementation)

Sovereign or National Credit Mechanisms
*   Japan J-Credit System
*   Singapore Carbon Credit Framework
*   Korea Carbon Offset Scheme
*   New Zealand Units (NZUs)
*   Australia ACCUs (under ERF)
*   Colombia CERs under national carbon tax

4. Sector-Specific & Supply Chain
   GHG Reporting Systems

Oil & Gas
*   OGMP 2.0 Methane Framework
*   IOGP GHG Reporting Guidelines
*   OGCI Measurement & Reporting Framework
*   U.S. Methane Emissions Reduction Program (IRA)
*   API GHG reporting standards

Transport
*   ICAO CORSIA for aviation
*   IMO DCS (Data Collection System) for shipping
*   IMO CII (Carbon Intensity Indicator)
*   EU Maritime MRV
*   EU Aviation MRV
*   ISO 14083 (transport GHG methodology)

Power & Energy
*   GHG Protocol for the Power Sector
    (in development in some regions)
*   Regional grid emission factor reporting
    (e.g., eGRID in U.S.)
*   Guarantees of Origin (EU) reporting

Agriculture, Forestry & Land Use
*   FAO EX-ACT
*   FAOSTAT GHG data
*   IPCC AFOLU Guidelines
*   SBTi FLAG
*   Cool Farm Tool
*   GHG Protocol LSR (Land Sector & Removals)

Industrial Sectors
*   Cement Sustainability Initiative GHG Protocol
*   Worldsteel CO_2 Methodology
*   IAI Aluminium Carbon Footprint Framework
*   ICAO sustainable aviation fuel LCA models
*   RSB (Roundtable on Sustainable Biomaterials)
    LCA/GHG requirements

Products & Supply Chains
*   PAS 2050 (UK)
*   Product Environmental Footprint (EU PEF)
*   Environmental Product Declarations (EPDs) under
    ISO 14025
*   Product Category Rules (PCRs)
*   Carbon Trust footprint standards

5. Nation-State UNFCCC Transparency &
   Inventory Systems

All Parties must produce:
*   National GHG Inventory
*   Biennial Transparency Reports (BTRs)
*   National Communications
*   Common Reporting Tables (CRT) under
    Paris Agreement
*   National MRV systems for mitigation actions

APPENDIX C - GHG PROFESSIONALS JOB CATEGORIES IN 2025[5]

Below are the results of an initial review of current job listings for GHG professionals, summarized into job classifications and job roles. The results indicate a wide range of jobs exist for a variety of reasons that require specialized competencies and skills in GHG accounting and management. Table C-1 provides five job classifications, further divided into illustrative job roles with corresponding responsibilities and skills. Not shown are the likely numerous, more specific, and specialized job titles possible for each role.

TABLE C-1

Indicative Job Classification for GHG Professionals in 2025

Examples of Job Roles for Illustration

GHG Accounting and Reporting Professionals: focus on the quantification, reporting, and verification of GHG emissions

GHG Reporting Analyst
- *Responsibilities:* Managing GHG emissions accounting, regulatory compliance, and verification; conducting quality reviews; supporting digital tools for GHG reporting.
- *Skills:* Expertise in GHG accounting standards (e.g., GHG Protocol), data analysis, and regulatory knowledge.

Sustainability Analyst
- *Responsibilities:* Developing GHG inventories, supporting climate-related disclosures, and analyzing environmental data.
- *Skills:* Familiarity with Scope 1, 2, and 3 emissions reporting frameworks and corporate sustainability practices.

GHG Mitigation* Professionals: design and implement strategies to mitigate GHG emissions

GHG Mitigation Specialists
- *Responsibilities:* Identifying sources of emissions and sinks, implementing strategies and technologies, and collaborating with stakeholders to mitigate GHG emissions and enhance removals.
- *Skills:* Knowledge of atmospheric science, spatial analysis, and climate regulations.

GHG Mitigation Project Manager
- *Responsibilities:* Leading projects result in avoided emissions or enhanced removals through, for example, energy efficiency, renewable energy adoption, or carbon offset programs.
- *Skills:* Project management, technical expertise in emission reduction technologies, and stakeholder engagement.

Policy and Regulatory Advisors: focus on navigating and influencing climate policies

Policy Advisor – Climate & Sustainability
- *Responsibilities:* Advising on compliance with GHG regulations, assessing the impact of new policies, and developing mitigation strategies.
- *Skills:* Deep understanding of regulatory frameworks, policy analysis, and advocacy.

Regulatory Compliance Specialist
- *Responsibilities:* Ensuring adherence to federal/state GHG regulations; managing permitting processes for emissions-intensive industries.
- *Skills:* Regulatory expertise and risk assessment capabilities.

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[5] Excerpt from GHGMI's Gap Analysis of 2009 National Occupational Standard and Competencies for GHG Professionals, April 16, 2025.

*This job category may also be called GHG Reduction Specialist in practice. The term "reductions" has multiple meanings and can cause confusion. The term mitigation is preferred because it is more precise and means actions to reduce or prevent GHG emissions.

Examples of Job Roles for Illustration

Corporate Climate Strategy Professionals: responsible for aligning organizational goals with climate action plans

Climate Action Planner
- *Responsibilities:* Developing organizational climate strategies, setting emissions targets, and implementing emission reduction plans.
- *Skills:* Strategic planning, knowledge of sustainability frameworks (e.g., Science-Based Targets), and stakeholder collaboration.

Corporate Sustainability Consultant
- *Responsibilities:* Advising companies on ESG disclosures, carbon neutrality goals, and integrating sustainability into business operations.
- *Skills:* Expertise in ESG reporting standards like CDP or IFRS S1 and IFRS S2.

Technical Specialists: provide specialized support in data management and tools development for GHG management

Climate Action Planner
- *Responsibilities:* Developing organizational climate strategies, setting emissions targets, and implementing emission reduction plans.
- *Skills:* Strategic planning, knowledge of sustainability frameworks (e.g., Science-Based Targets), and stakeholder collaboration.

APPENDIX D – CHANGE REQUESTS AND ERRATA

ECO welcomes feedback to help ensure the accuracy, clarity, and usefulness of this occupational standard. If you identify an error, omission, or have a suggestion for improvement, please contact our Research team at **info@ecofoundation.ca.**

When submitting feedback, please include:
- The title of the document
- The section or page number (if applicable)
- A brief description of the suggested change or correction

Your input will help us keep the occupational standard timely, credible, and reliable.

In November 2025, a version 1 draft of this OS was released for public review and comment. The majority of comments were incorporated into the final version 1 OS. However, some comments were deferred for consideration in version 2. These comments include the following:

Develop a proficiency and progression framework for GHG professionals
- Introduce a proficiency scale and competency development pathways from entry-level to senior roles
- Include professional development pathways for career advancement

Expand scope of GHG profession
- Reconsider exclusion of climate adaptation professionals; integrate mitigation-adaptation linkages
- Add sector-specific competencies for hard-to-abate industries (steel, cement, energy-intensive)
- Include Environmental Engineers role explicitly in Appendix C
- Address integration of AI tools in competency requirements

Improve global accessibility and context
- Add guidance for emerging markets with evolving regulatory systems
- Enhance glossary with examples for complex terms (uncertainty analysis, MRV, stakeholder engagement) targeting new entrants and non-technical audiences

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