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Statement of Position

Issued Under the Authority of the Auditing Standards Board

13-1

April 2013

Attest Engagements on Greenhouse Gas Emissions Information

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Attest Engagements on Greenhouse Gas Emissions Information

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NOTE

This Statement of Position (SOP) is an interpretative publication, and it represents the recommendations of the AICPA's Sustainability Task Force regarding the application of Statements on Standards for Attestation Engagements (SSAEs) to attest engagements on greenhouse gas emissions information. The Auditing Standards Board (ASB) has found the recommendations in this SOP to be consistent with existing standards covered by Rule 202, *Compliance With Standards* (AICPA, *Professional Standards*, ET sec. 202 par. .01), of the AICPA Code of Professional Conduct.

Interpretative publications are not as authoritative as a pronouncement of the ASB; however, if a practitioner does not apply the attestation guidance included in this SOP, the practitioner should be prepared to explain how he or she complied with the SSAE provisions addressed by this SOP.

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Attest Engagements on Greenhouse Gas Emissions Information

Introduction

1. Certain atmospheric gases (carbon dioxide, methane, nitrous oxide, water vapor, and others) are called greenhouse gases (GHGs) because they are believed to contribute to the retention of outgoing energy, trapping heat somewhat like the glass panels of a greenhouse. For the purposes of GHG emissions reporting, GHGs include carbon dioxide and any other gases required by the applicable criteria to be included in the GHG emissions schedules, such as

    - methane (CH_4);
    - nitrous oxide (N_2O);
    - perfluorocarbons (PFCs);
    - hydrofluorocarbons (HFCs); and
    - sulphur hexafluoride (SF_6).

2. Gases other than carbon dioxide are often expressed in terms of carbon dioxide equivalents (CO_2-e). Due to a number of global and national initiatives to reduce GHG emissions, many entities are quantifying their GHG emissions for internal management purposes, and many are also preparing a GHG emissions schedule

    - as part of a regulatory disclosure regime.
    - as part of an emissions trading program.
    - to inform investors and others on a voluntary basis. Voluntary disclosures may be, for example, published as a stand-alone document, included as part of a broader sustainability report or in an entity's annual report, or made to support inclusion in a public carbon registry.

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3. Entities may also participate in *emission reduction*[1] projects to reduce the emission of GHGs, such as by setting emission limits or modifying the emission source. Emission reduction is measured in relation to a *baseline*. Emission reductions may be registered and traded (that is, purchased and sold). Paragraphs 29–30 describe the attributes to be met by an emission reduction for it to be registered or traded, and paragraph 45 provides examples of GHG emission reduction projects.

GHG Reporting in the United States

4. Voluntary reporting programs in which some U.S. companies participate include the following:

   - The Carbon Disclosure Project (CDP), an organization based in the United Kingdom that works with shareholders and corporations to encourage them to disclose their GHG emissions. The CDP scores entities based on factors such as the extent to which a company measures its carbon emissions, the frequency and relevance of its disclosure to key corporate stakeholders, and whether the company engages a third party to verify emissions data to promote greater confidence and use of the data. Entities with sufficiently high scores are listed in the Carbon Disclosure Leadership Index (CDLI).
   - The Climate Registry (www.theclimateregistry.org) is a nonprofit collaboration among North American states, provinces, territories, and Native Sovereign Nations that sets standards to calculate, verify, and publicly report GHG emissions into a single registry.

   Certain industries and jurisdictions require GHG emissions reporting but may not require attestation services.

5. Reasons that entities report GHG emissions and request attestation services related to GHG emissions include the following:

   - To participate in GHG emissions reductions programs.

1. Terms defined in the glossary are italicized the first time they appear in this statement of position.

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- To respond to shareholder resolutions calling for companies to report and have their corporate social responsibility or GHG emissions information verified by a third party.
- To demonstrate responsible corporate behavior.
- The desire to be listed in the CDLI.
- To satisfy requests from customers regarding information about GHG emissions within their supply chain. For example, in October 2009, Section 13 of Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, directed the U.S. General Services Administration (GSA) with the Department of Defense and the Environmental Protection Agency to assess the feasibility of requiring federal suppliers to provide GHG emissions data to the government. In August 2010, GSA launched the Federal Supplier Greenhouse Gas Emissions Inventory Pilot, a three-year program in which small businesses are required to develop annual GHG emissions inventories through September 2013. The program's purpose is to assess the benefits and challenges experienced by small businesses when completing a GHG emissions inventory.

Terms and Definitions Used by Registries and Regulatory Frameworks

6. Appendix A in this statement of position (SOP) contains a glossary of common terms relating to GHG engagements. Different registries and regulatory frameworks may use different terms and definitions for similar services. A *validation* is a service that would provide assurance on the feasibility of the design of an emission reduction project, usually before inception of the project; an entity would typically engage an engineering or a consulting firm to provide such a service. This SOP does not provide guidance on validation standards. A *verification* is the objective and independent assessment of whether the reported GHG emissions properly reflect the GHG impact of the entity in conformance with preestablished GHG accounting and reporting standards. Various GHG registries and

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regulatory frameworks may not define these terms in exactly the same way; thus, the practitioner should obtain the official definitions of such terms under the registry or regulatory framework relevant to the engagement. However, practitioners should not use terms such as *validation* or *verification* in their attest reports on GHG emissions regardless of whether the registry or regulatory framework uses such terms because AT section 101, *Attest Engagements* (AICPA, *Professional Standards*), requires the terms *examination* or *review* to be used to describe such engagements.

Scope of This SOP

7. This SOP provides guidance for practitioners performing

   - an examination or
   - a review

   of a GHG emissions statement containing either

   - a schedule with the subject matter or
   - an assertion

   relating to information about an entity's GHG emissions, such as

   - a GHG *inventory* (an entity's emissions of GHGs for a specified period, typically, a year or a series of years, or a baseline *GHG inventory*), or
   - a GHG emission reduction in connection with
     - — the recording of the reduction with a registry or
     - — a trade of that reduction or *credit*.

   Such engagements should be performed pursuant to AT section 101. This SOP provides guidance on the application of AT section 101 to GHG emissions attest engagements. This SOP is not intended to provide all the guidance set forth in the applicable standards established by the AICPA. This SOP supersedes SOP 03-2, *Attest Engagements on Greenhouse Gas Emissions Information*.

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8. In an examination engagement of a GHG emissions statement, the practitioner chooses a combination of attestation procedures, which can include inspection, observation, confirmation, recalculation, reperformance, analytical procedures, and inquiry. In a review engagement, the types of procedures performed generally are limited to inquiries and analytical procedures (see paragraph 59 for further description of review procedures). Determining the attestation procedures to be performed on a particular engagement is a matter of professional judgment. Because GHG emissions reporting covers a wide range of circumstances, the nature, timing, and extent of procedures are likely to vary considerably from engagement to engagement.

9. Unless otherwise stated, the matters discussed in this SOP apply to both examination and review engagements. Because a review engagement is substantially less in scope than an examination, the procedures the practitioner will perform in a review engagement will vary in nature and extent from those performed in an examination engagement. Paragraphs 59 and 64 describe in tabular form procedures that are relevant to an examination or review engagement. Procedures that would ordinarily be performed in both an examination and a review are shown in one column across a row. Similar procedures are shown in separate columns in a row, and when a procedure is not ordinarily performed in a review engagement, the review column in that row has been deliberately left blank. Although some procedures are shown only for examination engagements, they may nonetheless be appropriate in review engagements in circumstances in which procedures, in addition to inquiry and analytical procedures, are determined to be necessary by the practitioner.

Engagement Acceptance Considerations

10. The following are examples of matters addressed in AT section 101 that are relevant to a practitioner's decision about whether to accept an engagement:

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- Independence (see paragraphs 11–12).
- Whether the practitioner has adequate technical knowledge of the subject matter to perform the engagement, including evaluation of the work of any specialists involved in the engagement (see paragraphs 13–19).
- Whether the practitioner will be performing a sufficient portion of the engagement to assume overall responsibility (see paragraphs 20 and 54).
- Considerations in selecting and using the work of a specialist, when applicable (see paragraphs 21–23).
- Existence of suitable criteria (see paragraphs 24–30).
- Materiality considerations (see paragraph 31).
- Expectations of users of the GHG inventory or reduction information and the practitioner's report thereon.
- Whether the entity is likely to have adequate information systems and controls to provide reliable GHG information.
- Whether sufficient evidence is likely to exist, including when the entity has changed measurement methods for GHG emissions from one period to the next (see paragraphs 33 and 66).
- The scope of the entity's GHG inventory (see paragraphs 34–35 for a discussion of *boundaries* and paragraphs 36–38 for a discussion of direct and indirect emissions for a GHG inventory).
- Availability of historical data. If the practitioner is engaged to perform the attest service at a date considerably later than the base year, there is a risk that historical data for the base year may not be available (see paragraph 39 for a discussion of baselines).

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Independence

11. The practitioner performing an attest engagement is required to be *independent* pursuant to Rule 101, *Independence* (AICPA, *Professional Standards*, ET sec. 101 par. .01), of the Code of Professional Conduct.

12. Certain GHG registries and regulatory frameworks set rules that prohibit professionals who provide attest services on GHG emissions statements from providing other services to the entity for a period of time. For example, a GHG framework or registry may set independence requirements that specifically prohibit a practitioner who has performed certain services for an entity from also providing a verification (that is, an examination or review) of an entity's GHG emissions statement for a certain period of time. Such independence requirements, which may be beyond those of the AICPA, or other limitations on the scope of services set by the relevant framework or registry may preclude the practitioner from performing an attestation engagement that is acceptable under such GHG framework or to such registry.

Adequate Knowledge of Subject Matter and Use of a Specialist

13. Paragraph .02 of AT section 50, *SSAE Hierarchy* (AICPA, *Professional Standards*), states that "the engagement must be performed by a practitioner having adequate knowledge of the subject matter." Paragraph .22 of AT section 101 states that "this knowledge requirement may be met, in part, through the use of one or more specialists on a particular attest engagement if the practitioner has sufficient knowledge of the subject matter (*a*) to communicate to the specialist the objectives of the work and (*b*) to evaluate the specialist's work to determine if the objectives were achieved." Relevant considerations in determining whether to accept an attest engagement on a GHG emissions statement include whether the practitioner's involvement in the engagement and understanding of the subject matter are sufficient to enable the practitioner

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to discharge his or her responsibilities. The practitioner may involve internal specialists as part of the engagement team or engage external specialists to assist the team. The practitioner should accept an attest engagement on a GHG emissions statement only if the practitioner is satisfied that the engagement team, along with a practitioner's external specialist, collectively possesses the necessary professional competencies to perform the GHG emissions engagement.

14. Professional competencies necessary to perform a GHG emissions engagement may include

- understanding emissions trading programs and related market mechanisms, when relevant.
- understanding who the intended users of the information in the entity's GHG emissions statement are and how they are likely to use that information.
- knowledge of applicable laws and regulations, if any, that affect how the entity should report its emissions or impose a limit on the entity's emissions.
- GHG quantification and measurement methodologies, including the associated scientific and measurement uncertainties, and alternative methodologies available.
- knowledge of the applicable criteria, including, for example
  - — identifying appropriate *emissions factors*.
  - — identifying those aspects of the criteria (see paragraphs 24–28) that call for significant or sensitive estimates to be made or for the application of considerable judgment.
  - — methods used for determining organizational boundaries (that is, the entities whose emissions are to be included in the GHG emissions statement).
  - — which emissions reductions are permitted to be included in the entity's GHG emissions statement.

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15. In most attest engagements on GHG emissions, the nature of the entity's operations, emissions, or the emissions measurement methodology in general requires specialized skill or technical knowledge in a particular field other than accounting or auditing, such as environmental engineering. The practitioner should possess adequate technical knowledge of the subject matter to understand how GHG emissions information might be misstated and to design procedures to respond to the risks of material misstatement. A practitioner may obtain adequate knowledge of the subject matter through formal or continuing education, including self-study, or through practical experience. When determining whether the practitioner has adequate technical knowledge, the practitioner should read the criteria selected by the *responsible party* (defined as the person or persons, either as individuals or representatives of the entity, responsible for the subject matter)[2] to understand what is involved in the measurements.

16. Particular areas of expertise that may be relevant in such cases include the following:

- Information systems expertise
  - — Understanding how emissions information is generated, including how data is initiated, recorded, processed, corrected as necessary, and reported in the GHG emissions statement.
- Scientific and engineering expertise
  - — Mapping the flow of materials through a production process and the accompanying processes that create emissions, including identifying the relevant points at which source data is gathered. This may be particularly important when considering whether the entity's identification of emissions sources is complete.
  - — Analyzing chemical and physical relationships between inputs, processes, and outputs and relationships between emissions and other variables. The capacity to understand and analyze

2. Paragraph .11 of AT section 101, *Attest Engagements* (AICPA, *Professional Standards*).

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these relationships will often be important when designing analytical procedures.

- Identifying the effect of uncertainty on the measurement of GHG emissions.
- Knowledge of the quality control policies and procedures implemented at testing laboratories, whether internal or external.
- Experience with specific industries and related emissions creation and removal processes. Creation and removal procedures for scope 1 emissions quantification (see paragraph 36) vary greatly depending on the industries and processes involved (for example, the nature of electrolytic processes in aluminum production, combustion processes in the production of electricity using fossil fuels, and chemical processes in cement production are all different).
- The operation of physical sensors and other quantification methods and the selection of appropriate emissions factors.

17. If the entity is a service entity whose GHG emissions are limited to the use of purchased electricity and natural gas or oil, the practitioner may be able to use published factors to convert the electricity, gas, or oil used to GHGs emitted to obtain evidence about how the entity calculated its emissions. Under those circumstances, the practitioner may not need to use a specialist, provided that the practitioner possesses sufficient technical knowledge regarding the published factors, including an understanding of the nature of each factor and the distinctions between alternatives. If the entity has significant industrial operations with numerous sources of emissions, however, it is more likely that the practitioner will need to use a specialist.

18. If specialized skills are needed to supplement the practitioner's technical knowledge, the practitioner should seek the assistance of a professional possessing such skills, who may be either a member of the engagement team or an outside professional. The practitioner should possess adequate technical knowledge to direct, supervise, and review the

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specialist's work in the former situation and understand and evaluate the specialist's work in the latter situation.

19. When the responsible party employs a specialist to develop evidence that is used to support the assertion or presentation, the practitioner should evaluate whether the practitioner or another member of the engagement team possesses adequate technical knowledge to understand and evaluate the specialist's work or whether the practitioner should seek assistance from an external specialist. The practitioner may find it helpful to consider the provisions of AU-C section 500, *Audit Evidence* (AICPA, *Professional Standards*), when evaluating the competence, capabilities, and objectivity of the responsible party's specialist.

20. When using the work of an external specialist, the practitioner should consider the nature and magnitude of the specialist's work in relation to the overall engagement to determine whether the practitioner will be performing a sufficient portion of the engagement to assume overall responsibility.

Considerations When Selecting and Using the Work of a Specialist

21. Considerations when selecting a specialist include the following:

    - The specialist's expertise and competence in the subject matter
    - The relevance of the specialist's expertise to the practitioner's objectives in the attest engagement
    - The objectivity of the specialist
    - The nature and extent of the anticipated use of the specialist

22. Examples of matters that may require the practitioner to consider using the work of a specialist or having a specialist participate in the GHG engagement include

    - reviewing the quality of client-provided data (for example, appropriateness and accuracy).

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- evaluation of the reasonableness of emission factors, such as
  - — whether it is necessary or appropriate to use a derived emissions factor versus a published emissions factor.
  - — the population and selection of appropriate published emissions factors.
  - — assessment of the methodology used to calculate the specific GHG emissions (see paragraphs 33 and 66).
- reviewing the work of the responsible party's specialist (for example, to assess whether the assumptions underlying the methodology are reasonable).

23. Regardless of whether the specialist is employed by the practitioner's firm or an external specialist is engaged by the practitioner, the practitioner should follow the guidance in this SOP and may find it helpful to consider the provisions of AU-C section 620, *Using the Work of an Auditor's Specialist* (AICPA, *Professional Standards*). When the practitioner considers using the work of a specialist engaged by the responsible party, the practitioner should follow the guidance contained in this SOP and may find it helpful to consider the provisions of AU-C section 500, including evaluating the relationship of the specialist to the responsible party.

Criteria

24. AT section 101 states that in order for the engagement to be performed, the practitioner must have reason to believe that the subject matter is capable of evaluation against criteria that are suitable and available to users.

25. Criteria that are established or developed by groups composed of experts that follow due process procedures, including exposure of the proposed criteria for public comment, ordinarily should be considered suitable.

26. Frameworks establishing criteria for GHG emissions statements usually include measurement, presentation, and disclosure considerations. Different industries, regulatory

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organizations, or organizations acting in a standard-setting role may have developed guidance on measurement relevant to an industry, regulated group, or GHG emissions in general. Alternatively, an entity may develop its own criteria for measurement of emissions.

27. The practitioner should consider whether criteria selected by the responsible party are suitable (see paragraphs .23–.32 of AT section 101 for guidance on suitability of criteria). For guidance on the availability of criteria, see paragraphs .33–.34 of AT section 101.

28. Most entities will need to select a framework and refine the application of measurement criteria, perhaps using software tools for measuring emissions in specific industries or using certain industrial processes, such as cement production or aluminum smelting. The practitioner should review the entity's measurement protocol and consider whether the entity's measurement methods are appropriate. See appendix B, "Sources for GHG Emission Protocols and Calculation Tools."

Attributes to Be Met by GHG Emission Reductions

29. Various registries and GHG emissions trading programs have specified attributes to be met by an emission reduction for it to be registered or traded. Common attributes are identified and described in the following list; however, definitions may vary by trading program. In the context of a specific registry or emissions trading program, additional requirements to be met by the emission reduction may exist:

    a. Ownership. In many cases, ownership is clear. Examples of such cases include efficiency upgrades at a manufacturing facility or fuel-switching at a power plant. However, for some project types, particularly those with renewable energy and demand-side management projects that offset or displace fossil-fuel emissions, demonstrating ownership can be challenging. Ownership of the reductions may be open to dispute because the reductions do not occur on the site of the project but, rather, on the site of a fossil-fueled facility whose power was displaced. These are known

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as *indirect emission reductions* because the reductions occur at facilities other than the one where the project has been undertaken. The possibility that the direct source of emissions would claim title to the same reductions claimed by the project developer or that the joint venture partners would claim title to the same reductions of their joint venture (referred to as *double-counting*) represents a risk that buyers prefer to avoid. It is possible that multiple claimants, such as the owner of the emitting source, technology vendors, and the entity installing the technology, could claim ownership of these reductions.

b. *Real.* An emission reduction is real if it is a reduction in actual emissions that results from a specific and identifiable action or undertaking that is not a mere change in activity level (for example, due to typical business fluctuations) and net of any leakage to a third party or jurisdiction. *Leakage* occurs when an emission reduction project causes emissions to increase beyond the project's boundaries. Entities entering into an emission reduction project typically must demonstrate that the emission reduction will not cause emissions to increase beyond the project's boundaries.

c. *Quantifiable or measurable.* An emission reduction is quantifiable or measurable if the total amount of the reduction can be determined, and the reduction is calculated in an accurate and replicable manner.

d. *Surplus.* An emission reduction is surplus if the reduction is not otherwise required of a source by current regulations or a voluntary commitment to reduce emissions to a specified level.

e. *Establishment of a credible emissions baseline.* Many programs measure emission reductions by comparing a credible emissions baseline without the project to the emissions baseline with the project. A reduction quantity is not meaningful unless it is compared with a credible baseline (that is, a baseline compiled in accordance with the current protocol, using the same boundaries and scope).

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f. *Unique.* Credits should be created and registered only once from a specific reduction activity and time.

30. Some registries or emissions trading programs may have a requirement for *additionality*. Environmental additionality requires that the emission reductions achieved by the project would not have occurred in the absence of the project (the reduction must be additional to any required reductions; that is, if the entity has taken on a cap, the reduction must be additional to the cap). A credible emission baseline is crucial for an entity to demonstrate additionality. Various GHG registries and regulatory frameworks may not define additionality and the terms referred to in paragraph 29 in exactly the same way; thus, the practitioner should obtain the official definitions of such terms under the registry or regulatory framework relevant to the engagement.

Materiality

31. Paragraph .67 of AT section 101 addresses materiality in attestation engagements. Also, the applicable GHG registry or voluntary or regulatory framework may set specific materiality limits. If a GHG registry or framework sets specific materiality requirements that are more stringent than those of AT section 101, before accepting the engagement the practitioner should consider whether it is possible to meet such requirements.

Uncertainty in the Measurement of GHG Emissions

32. The term *uncertainty* as used in the field of GHG emissions refers to variability in the measurement of GHG emissions rather than the term *uncertainty* as defined in the auditing literature. Uncertainty in GHG emissions estimates can be due to a variety of factors. Examples of matters that may create or increase uncertainty in GHG emissions estimates include the following:

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- Use of factors that are poorly researched or uncertain (for example, factors for CH_4 and N_2O from combustion processes)
- Use of average case factors not perfectly matched to specific and varying circumstances (for example, miles per gallon, average $kgCO_2$/MWh generated)
- Deliberate estimation to compensate for missing data (for example, nonreporting facilities or missing fuel bills)
- Assumptions that simplify calculation of emissions from highly complex processes
- Imprecise measurement of emissions-producing activity (for example, miles traveled in airplanes or rental vehicles, hours per year specific equipment is used)
- Insufficient frequency of measurement to account for natural variability
- Poor calibration of measuring instruments

Consistency

33. Measurement of the GHG inventory requires consistent application of measurement methods. If the entity has changed measurement methods from one period to the next, the practitioner should consider the implications on the engagement (for example, whether it is essential that the same methods be used because either comparative information is presented or a reduction is being calculated and, if so, whether the entity has restated the prior period's results using the same measurement method as the current period). (See paragraphs 39, 66, and 72.)

Boundaries

34. Determining which operations owned or controlled by the entity to include in the entity's GHG emissions statement is known as "determining the entity's organizational boundary." In some cases, laws and regulations define the

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boundaries of the entity for reporting GHG emissions for regulatory purposes. In other cases, the applicable criteria may allow a choice between different methods for determining the entity's organizational boundary (for example, the criteria may allow a choice between an approach that aligns the entity's GHG emissions reporting with its financial statements and another approach that treats, for example, joint ventures or associates differently). Determining the entity's organizational boundary may require the analysis of complex organizational structures such as joint ventures, partnerships, and trusts and complex or unusual contractual relationships. For example, a facility may be owned by one party, operated by another, and process materials solely for another party.

35. Determining the entity's organizational boundary is different from what some criteria describe as determining the entity's "operational boundary." The operational boundary relates to which categories of scope 1, 2, and 3 emissions will be included in the GHG emissions statement and is determined after setting the organizational boundary. Leakage may affect the choice of operational boundaries. When planning the engagement, the practitioner should obtain an understanding of the boundaries that have been set by the entity and the potential for leakage. If leakage has occurred, the entity may account for it by adjusting its baseline or by changing its boundaries.

Scopes for Reporting GHG Emissions: Direct and Indirect Emissions

36. Reporting GHG emissions and emission reductions may encompass one or more of the following three scopes of emissions:

    a. Scope 1: *Direct GHG Emissions*. Emissions from sources that are owned or controlled by the entity. These are emissions associated with the following:

    - Stationary combustion from fuel burned in the entity's stationary equipment, such as boilers, incinerators, engines, and flares

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- Mobile combustion from fuel burned in the entity's transport devices, such as trucks, trains, airplanes and boats
- Process emissions from physical or chemical processes, such as cement manufacturing, petrochemical processing, and aluminum smelting
- Fugitive emissions, which are intentional and unintentional releases, such as equipment leaks from joints and seals and emissions from wastewater treatment, pits, and cooling towers

b. Scope 2: *Indirect GHG Emissions From the Generation of Imported or Purchased Electricity, Heat, or Steam*. Emissions that are a consequence of the activities of the entity, but which occur at sources that are owned or controlled by another entity. Scope 2 emissions are associated with energy that is transferred to, and consumed by, the entity.

c. Scope 3: *Other Indirect Emissions*, including the following:

- Employee business travel
- Outsourced activities, contract manufacturing, and franchises
- Transportation by the vendor or contractor of, for example, materials, products, waste, and employees
- Emissions from product use and end of life
- Employee commuting
- Production of imported materials

37. The practitioner should determine whether the proposed scope of the engagement is appropriate and whether it covers one or more of the following:

a. Direct GHG emissions

b. Indirect GHG emissions associated with the generation of imported or purchased electricity, heat, or steam

c. Other indirect emissions

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38. Some reporting programs may classify these emissions sources differently than those noted in paragraph 36. The practitioner should evaluate the potential for double-counting of emissions and reductions, especially in instances of indirect emissions and shared ownership or control. If the practitioner has been engaged to report on an entity's indirect emissions, especially those emissions for a supplier not under the direct control of the entity, the practitioner should consider whether he or she can obtain a written assertion from the responsible party and obtain sufficient evidence to form a conclusion. The practitioner also should consider the availability or existence of data for emitting sources not under the direct control of the entity.

Baselines

39. A *baseline* is the amount of the entity's emissions for a specified base year against which any future changes in emissions are evaluated. Management should recalculate the baseline, however, for changes in scope and boundaries, subsequent acquisitions, and sales or closing of emitting sources. If the practitioner is engaged to perform the attest service at a date considerably later than the base year, there may be differences in the quality of the data and consistency of methodology between the base year and the current year.

Objective of the Engagement

GHG Inventory

40. The criteria selected are used by the entity to measure and present and by the practitioner to evaluate the specific subject matter of the attestation engagement. It is anticipated that appropriate disclosures will be included in the presentation, not just the quantity of GHG emissions for a period of time. The presentation may include, or be accompanied by, other information that is not subject to the practitioner's engagement, such as the discussion of the responsible party's commitment and strategy, projections, and targets related to its GHG emissions. Therefore, the

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form of the conclusion will vary depending upon the information presented under the selected criteria on which the practitioner is engaged to report.

41. The practitioner's objective for an examination of GHG emissions information typically is to express an opinion about whether

    a. the entity's schedule of GHG emissions is presented, in all material respects, in conformity with the criteria selected by the responsible party (see paragraphs 24–28), or

    b. the responsible party's written assertion about the schedule of GHG emissions is fairly stated, in all material respects, based on the criteria selected by the responsible party.

42. The practitioner's objective for a review of GHG emissions information typically is to express a conclusion, based on the work performed, about whether any information came to the practitioner's attention that indicates that

    a. the entity's schedule of GHG emissions is not presented, in all material respects, in conformity with the criteria selected by the responsible party, or

    b. the responsible party's written assertion about the schedule of GHG emissions is not fairly stated, in all material respects, based on the criteria selected by the responsible party.

GHG Emission Reduction Information

43. The practitioner's objective in an examination of GHG emission reduction information typically is to express an opinion about whether

    a. the entity's GHG emission reduction information related to a specific project or on an entity-wide basis is presented, in all material respects, in conformity with the criteria selected by the responsible party, or

    b. the responsible party's written assertion about the GHG emission reduction information related to a specific project or on an entity-wide basis is fairly

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stated, in all material respects, based on the criteria selected by the responsible party.

44. The practitioner's objective in a review of GHG emission reduction information is to express a conclusion, based on the work performed, about whether any information came to the practitioner's attention that indicates that

    a. the entity's GHG emission reduction information related to a specific project or on an entity-wide basis is not presented, in all material respects, in conformity with the criteria selected by the responsible party, or

    b. the responsible party's written assertion about the GHG emission reduction information related to a specific project or on an entity-wide basis is not fairly stated, in all material respects, based on the criteria selected by the responsible party.

Examples of GHG Emission Reduction Projects

45. Examples of GHG emission reduction projects include, but are not limited to, the following:

- Use of renewable energy systems, such as wind, solar, and other low emission technologies, in place of higher emission technologies
- Change in processes to increase energy efficiency, such as the installation and use of more energy-efficient equipment
- Carbon sequestration: no-till farming; agricultural grass and tree plantings
- Change from more GHG-intensive fuels to less GHG-intensive fuels (for example, from coal to natural gas or nuclear power)
- Recovery and use of agricultural and landfill methane
- Improvement in the fuel efficiency of vehicle fleets
- Reduction in venting or flaring on offshore oil production platforms (installation of zero flare systems; rapid response to unplanned events)

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- Cessation of operations at noneconomical plants and transfer of production to more efficient plants
- Demand-side management projects

Prerequisite for Engagements Related to GHG Emission Reduction Information

46. As a prerequisite to performing an examination or review of GHG emission reduction information, the practitioner should obtain sufficient evidence about the entity's GHG emissions for the period in which the project took effect to provide a reasonable basis for the conclusion that is expressed in the practitioner's report on the GHG emission reduction information.

47. In some cases, one practitioner has reported on an entity's GHG inventory, but another practitioner is engaged to report on the entity's GHG emission reduction information. When the practitioner engaged to report on the GHG emission reduction information is deciding whether he or she may rely on the work of the other practitioner, the practitioner may find it helpful to consider the provisions of AU-C section 600, *Special Considerations—Audits of Group Financial Statements (Including the Work of Component Auditors)* (AICPA, *Professional Standards*). Other important considerations in this situation are the level of assurance obtained by the other practitioner and the consistency of the assumptions and methods used to measure the GHG emission reduction with those used to measure the GHG inventory reported on by the other practitioner. (See paragraphs 33 and 66).

48. Members of professions other than public accounting are subject to their own professional requirements; those requirements may differ from those of the public accounting profession. When a non-CPA has provided verification services (see paragraph 6) with respect to an entity's GHG inventory and the practitioner is engaged to examine or review an entity's GHG reduction, the practitioner should perform procedures to obtain sufficient evidence with respect to the entity's GHG inventory as part of performing the attest engagement to report on the entity's GHG emission reduction (for example, evaluating

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the appropriateness of the methodology and any emission factors used and whether the base year emissions were adjusted if needed). The practitioner may find it helpful to consider certain aspects of the specialist's work in accordance with AU-C section 620.

Written Assertion by the Responsible Party

49. A written assertion by a responsible party may be presented to a practitioner in a number of ways, such as in a narrative description, within a schedule, or as part of a representation letter appropriately identifying what is being presented and the point in time or period of time covered. An example of a written assertion on a GHG inventory is as follows:

> XYZ Company asserts that its schedule of GHG emissions for the year ended December 31, 20XX, is presented in conformity with [*identify criteria selected by the responsible party*].

An example of a written assertion on a GHG emission reduction project is as follows:

> XYZ Company reduced GHG emissions in connection with project ABC by 50,000 tons of CO_2 equivalents for the year ended December 31, 20XX, from its GHG emissions in the prior year, based on [*identify criteria selected by the responsible party*].

Engagement Performance

Agreement on Engagement Terms

50. The practitioner should establish an understanding with the client regarding the services to be performed. The understanding should include the objectives of the engagement, management's responsibilities, the practitioner's responsibilities, and the limitations of the engagement. The practitioner should document the understanding in the working papers, preferably through a written communication with the client, such as an engagement letter.

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Planning the Engagement

51. Relevant information about obtaining an understanding and other considerations when planning an examination or review engagement typically includes the following:

- Applicable to GHG inventories and reductions
  - — The nature of the entity's business and whether the entity has operations, and, therefore, GHG emission sources, in multiple locations and the types of GHG emissions produced
  - — The business purpose or reason behind emissions measurements or emission reductions
  - — The oversight of, and responsibility for, emissions information within the entity
  - — The organizational and operational boundaries used for the emissions inventory
  - — Whether there have been any mergers, acquisitions, divestitures, sales of emitting sources, or outsourcing of functions with significant emissions that may require adjustment of the entity's baseline
  - — Whether all significant sources of emissions have been identified by the entity
  - — The potential for double-counting of emissions and, if applicable, reductions
  - — When applicable, any regulatory framework(s) (for example, state- or country-specific regulations, *permits*, or operating licenses governing emissions where the entity has operations) or any requirements relevant to a voluntary commitment to register or reduce GHG emissions
  - — How GHG emissions have been calculated and reported, including emissions factors and their justification, and any assumptions on which estimates are based
  - — The protocols that were used for measurement of emissions and whether they were used in a consistent manner throughout the entity over the period under examination or review

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— Whether there is a need to use the work of a specialist

— Whether the entity's internal audit function is relevant to the engagement

— Whether to obtain a legal letter (legal letters are generally not obtained in a review engagement)

- Applicable to GHG reductions only
  — The type(s) of emission reduction(s) (for instance, a switch in fuel type or change in production process) (see paragraph 33).

  — Whether the emitting entity is required by a registry or regulatory framework to engage an outside specialist to evaluate the scientific or engineering basis for the proposed reduction project (sometimes referred to as a *validation*). Those rules may further specify that the party evaluating the science cannot be the same party as the verifier. When applicable, whether another reputable party has evaluated the science and found it to be acceptable and the implications of findings in the report.

  — Whether there are any ownership issues relating to the GHG emission reduction credits to be sold. (For example, in the case of a landfill, the seller may own the landfill or have ownership rights over the emission reduction by virtue of a contract.)

Consideration of Internal Control Over Gathering and Reporting GHG Emissions Data

52. Paragraph .52*c* of AT section 101 states "the more effective the controls over the subject matter, the more assurance they provide about the subject matter or the assertion." For an examination engagement, obtaining an understanding of internal control over gathering and reporting GHG emissions data, including *data assembly* and data retention, assists the practitioner in assessing control risk and planning the engagement. Relevant matters to understand regarding internal control include the following components of the entity's internal control:

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a. The control environment.

b. The information system, including the related business processes, and communication of emissions-reporting roles and responsibilities and significant matters relating to emissions reporting.

c. The entity's risk assessment process related to gathering, processing, and reporting GHG emissions data.

d. Control activities relevant to the engagement. An attest engagement does not require an understanding of all the control activities related to each significant type of emission and disclosure in the GHG emissions schedule or to every assertion relevant to them.

e. Monitoring of controls.

53. For a review engagement, obtaining an understanding of the entity's internal control over gathering and reporting GHG emissions data, including data assembly and data retention, may assist the practitioner with

a. identifying types of potential misstatements in the GHG emissions statement, including types of omissions, and considering the likelihood of their occurrence.

b. selecting the inquiries and analytical procedures, and other procedures if necessary, that will provide a basis for reporting whether any information causes the practitioner to believe

i. the entity's GHG emissions statement is not presented, in all material respects, in conformity with the criteria selected by the responsible party, or

ii. the responsible party's written assertion about the GHG emissions statement is not fairly stated, in all material respects, based on the criteria selected by the responsible party.

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Part of Attest Engagement Performed by Other Practitioners

54. If another practitioner is reporting on the GHG emissions information for a subsidiary of the entity, that practitioner also should follow the guidance in this SOP. The practitioner who is engaged to report on the entity as a whole should consider whether the practitioner for the subsidiary has the skill and knowledge required to conduct the engagement. AU-C section 600 provides guidance on the professional judgments the auditor makes when deciding whether the auditor may serve as group engagement partner and use the work and reports of component auditors who have audited the financial statements of one or more subsidiaries, divisions, branches, components, or investments included in the financial statements presented. The practitioner who is engaged to report on the entity as a whole may find that guidance helpful when performing an attest engagement on GHG emissions, and another practitioner is reporting on the GHG emissions of a subsidiary or other component of the client entity. Other relevant information for the practitioner reporting on the subsidiary is whether the subsidiary is using the same protocol, scope of reporting, and boundaries as the parent entity.

Attestation Risk

55. *Attestation risk* is the risk that the practitioner may unknowingly fail to appropriately modify his or her attest report on the subject matter or assertion that is materially misstated. It consists of (*a*) the risk (consisting of *inherent risk* and *control risk*) that the subject matter or assertion contains deviations or misstatements that could be material and (*b*) the risk that the practitioner will not detect such deviations or misstatements (*detection risk*).

56. Examples of causes of possible misstatements of GHG inventory or GHG emission reduction information include the following:

    - Human error in calculations
    - Use of incorrect emissions factors

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- Omission from the inventory of emissions from one or more emitting sources
- Omission from the inventory of one or more GHG emissions (for example, omission of methane emissions)
- Failure to properly account for leakage (for example, when the entity has outsourced a major function that accounted for a significant part of its GHG emissions baseline but has not adjusted its baseline to reflect such change)
- Failure to appropriately adjust the baseline for events such as sales or acquisitions of emitting sources
- Existence of one or more significant deficiencies in the entity's internal control over reporting of emissions information
- Double counting of an emission source within the entity

Obtaining Sufficient Evidence

57. When conducting an examination engagement, the practitioner should accumulate sufficient evidence to restrict attestation risk to a level that is, in the practitioner's professional judgment, appropriately low for the high level of assurance that may be imparted by his or her report. A practitioner should select from all available procedures—that is, procedures that assess inherent and control risk and restrict detection risk—any combination that can restrict attestation risk to such an appropriately low level. (See paragraph .54 of AT section 101.)

58. In a review engagement, the objective is to accumulate sufficient evidence to restrict attestation risk to a moderate level. To accomplish this, the types of procedures performed generally are limited to inquiries and analytical procedures (rather than also including search and verification procedures). Nevertheless, there will be circumstances in which inquiry and analytical procedures (*a*) cannot be performed, (*b*) are deemed less efficient than other procedures, or (*c*) yield evidence indicating

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that the subject matter or assertion may be incomplete or inaccurate. In the first circumstance, the practitioner should perform other procedures that he or she believes can provide him or her with a level of assurance equivalent to that which inquiries and analytical procedures would have provided. In the second circumstance, the practitioner may perform other procedures that he or she believes would be more efficient to provide him or her with a level of assurance equivalent to that which inquiries and analytical procedures would provide. In the third circumstance, the practitioner should perform additional procedures.

59. The procedures listed in the following table may be performed, among others, in an examination or review engagement of a GHG inventory or an emission reduction to restrict attestation risk to an appropriate level for the engagement:

Examination	Review
a. Obtaining evidence about how emissions were calculated and any underlying methodologies, emission factors, and assumptions used.	*a.* Inquiring about how emissions were calculated and any underlying methodologies, emission factors, and assumptions used.
b. Evaluating the appropriateness of techniques used to calculate the emissions or emission reduction, including how completeness and uncertainty are addressed in those calculations (see paragraphs 61–63).	
c. Determining whether there have been any changes in the protocol(s) used to calculate emissions and, when applicable, determine whether a subsidiary uses the same protocol.	*c.* Inquiring about whether there have been any changes in the protocol(s) used to calculate emissions and, when applicable, about whether a subsidiary uses the same protocol.
d. Conducting site visits as considered appropriate. To obtain adequate coverage of total emissions, particularly in an examination, the practitioner may decide that it is appropriate to perform procedures on location at a selection of facilities. Factors that may be relevant to such a decision include	

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Examination	Review
• the nature of emissions at different facilities. • the number and size of facilities and their contribution to the entity's overall emissions. • whether facilities use different processes or processes using different technologies. When this is the case, it may be appropriate to perform procedures on location at a selection of facilities using different processes or technologies. • the methods used at different facilities to gather emissions information. • the experience of relevant staff at different facilities. • varying the selection of facilities over time.	
e. Determining whether there have been any changes in baselines, such as sales or acquisitions of operational facilities or subsidiaries.	*e.* Inquiring about whether there have been any changes in baselines, such as sales or acquisitions of operational facilities or subsidiaries.
f. When applicable, obtaining information about the frequency of meter readings and calibration and maintenance of meters.	*f.* When applicable, inquiring about the frequency of meter readings and calibration and maintenance of meters.
g. Reading relevant contracts.	
h. Tracing information to supporting documents.	
i. Inquiring about the existence of fraud or illegal acts or suspected fraud or illegal acts affecting the entity involving (1) management, (2) employees who have significant roles in the entity's processes and procedures relating to measurements of emissions in conformity with the criteria specified previously, or (3) others when the fraud or illegal acts could have a material effect on measurements of emissions in conformity with the selected criteria.	
j. Inquiring about the nature of significant judgments and estimates made by management and any uncertainties regarding measurements; considering management's process for, and internal control over, developing those estimates; inquiring about key factors and assumptions underlying those estimates; and evaluating the reasonableness thereof.	

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Examination	Review
k. When applicable, tracing emissions factors used to recognized sources.	*k.* When applicable, inquiring about the source of emissions factors.
l. Determining whether emissions factors have been properly applied and whether the underlying assumptions are documented and have a reasonable basis.	*l.* Inquiring about whether emissions factors have been properly applied and whether the underlying assumptions are documented and have a reasonable basis.
m. Performing analytical procedures (for example, change in amounts from the previous year, fluctuations in amounts during the present year, and variation from an independent expectation developed by the practitioner).	
n. When applicable, comparing emission data to records of number of units sold or produced for the period.	*n.* When applicable, performing analytical comparisons of emission data to number of units sold or produced for the period.
o. When applicable, confirming details of the transaction(s) (for example, quantity of methane sold or purchased) with the other party to the transaction.	
p. Inquiring about whether there have been any changes in production levels (lower emissions due to a drop in production level might not be permanent) and obtaining evidence supporting production levels.	*p.* Inquiring about whether there have been any changes in production levels (lower emissions due to a drop in production level might not be permanent).
q. Inquiring about whether there have been any communications from regulators concerning emission levels or noncompliance with permits or regulatory programs.	

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Examination	Review
r. Obtaining supporting evidence for any emission reduction credits that are banked, purchased from, or sold to a third party (such information may be included in a public report on a GHG inventory).	*r.* Inquiring about any emission reduction credits that are banked, purchased from, or sold to a third party (such information may be included in a public report on a GHG inventory).
s. Obtaining and reading environmental (or Environmental, Health and Safety [EH&S]) internal audit reports and minutes of audit committee meetings (or other relevant board committees to which the environmental or EH&S internal auditors report).	*s.* Inquiring about relevant information in environmental or EH&S internal audit reports and minutes of audit committee meetings (or other relevant board committees to which the environmental or EH&S internal auditors report).
t. Inquiring about whether there have been any subsequent events that would affect the subject matter or the assertion (see paragraph 66).	
u. Obtaining a legal letter when considered appropriate (for example, to address [1] noncompliance with regulatory programs [emissions exceed permitted amount], [2] ownership of credits, or [3] the existence of any unasserted claims).	
v. Obtaining written representations from management.	

60. In a review engagement, the practitioner ordinarily is not required to corroborate management's responses to inquiries with other evidence; however, the practitioner should consider the reasonableness and consistency of management's responses in light of the results of other review procedures and the practitioner's knowledge of the

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entity's business and the industry in which it operates and, as noted in paragraph 58, the practitioner may need to perform additional procedures.

Techniques to Calculate Emissions and Reductions

61. Reductions are calculated by comparing the amount of emissions from one period to another. For entities reporting on a facility basis, this will usually be calculated annually. For entities reporting on a project basis, the period may vary depending on the nature of the project.

62. Measurement techniques include, but are not limited to, the use of mass balance equations, emissions factors, stack tests, and direct measurement of emissions, including continuous emission monitors.

63. For reductions calculated in comparison to a base year, adjustments are evaluated to the base year based on structural changes with the entity's organization and changes in ownership or control of the emitting source(s), or both. (Mergers, acquisitions, sales of emitting sources, outsourcing of certain functions, and entering into joint ventures would likely require adjustment of the baseline.) Note that adjustments of the baseline based on organic growth or decline are generally not appropriate.

Procedures Specific to GHG Emission Reduction Engagements

64. In addition to the procedures described in paragraph 59, procedures that may be relevant, among others, in an examination or review engagement of GHG emission reduction information are included in the following table:

Examination	Review
a. Obtaining evidence of significant changes in the production process, switches from one fuel type to another, or other changes resulting in the emission reduction.	*a.* Making inquiries about whether there have been any significant changes in the production process, switches from one fuel type to another, or other changes resulting in the emission reduction.

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Examination	Review
b. Evaluating techniques used by the entity to calculate the emission reduction (see paragraphs 61–63).	
c. Inquiring about the reason or business purpose for the reduction and considering the possible implications with respect thereto. Consider obtaining from management a written representation regarding the reason for the reduction project (see paragraph 30 on additionality).	
d. Inquiring about whether there are any permits applicable to the facility and, if so, examine the permit for factors that may have a bearing on the reduction project (for example, reductions that meet other requirements cannot be transferred); obtaining a management representation specific to permits.	*d.* Inquiring about whether there are any permits applicable to the facility and, if so, about how they might bear on the reduction project (for example, reductions that meet other requirements cannot be transferred); consider obtaining a management representation specific to permits.
e. When applicable, reading reports prepared by the seller for purposes other than the sale of the GHG emission reduction credits (for example, an emission report filed with a regulatory agency) and checking for consistency of information related to the sale.	
f. Agreeing or confirming details of GHG emission reduction credits with the relevant GHG registry.	*f.* If information is publicly available, comparing detail of GHG emission reduction credits with the relevant GHG registry.

Consideration of Subsequent Events

65. Events or transactions sometimes occur subsequent to the point in time or period of time of the subject matter being tested, but before the date of the practitioner's report, that have a material effect on the subject matter and, therefore, require adjustment or disclosure in the presentation of the subject matter or the assertion. These occurrences are referred to as *subsequent events*. When performing an attest engagement, the practitioner should consider information about subsequent events that comes to his or her

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attention. Although the practitioner has no responsibility to detect subsequent events, the practitioner should inquire of the responsible party (and his or her client, if the client is not the responsible party) about whether they are aware of any subsequent events through the date of the practitioner's report that would have a material effect on the subject matter or the assertion. If the practitioner has decided to obtain a representation letter from the responsible party, the letter ordinarily would include a representation concerning subsequent events. (Paragraphs .95–.99 of AT section 101 provide additional guidance on the consideration of subsequent events in an attest engagement.) Types of events that may represent a subsequent event in the context of an attest engagement on GHG emissions include the following:

- Changes in baseline emissions due to events such as acquisition or disposition of facilities, change in number of shifts at a facility, or change in production levels
- Destruction of the facility to which an emission reduction relates
- In the case of a GHG emission reduction, unplanned or accidental release of sequestered carbon
- Investigations or regulatory actions related to emissions

Adequacy of Disclosure

66. The practitioner is required by AT section 101 to consider the adequacy of disclosure of material matters. (See paragraphs .70 and .76–.77 of AT section 101.) Examples of matters that may be material include

- changes in the entity's boundaries or emissions calculation methodologies.
- mergers, divestitures, acquisitions, or closures.
- uncertainties in the measurement of GHG emissions (see paragraph 32).

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Representation Letter

67. In an examination or review engagement, the practitioner should consider obtaining a representation letter from the responsible party. Written representations from the responsible party ordinarily confirm representations explicitly or implicitly given to the practitioner, indicate and document the continuing appropriateness of such representations, and reduce the possibility of misunderstanding concerning the matters that are the subject of the representations. Examples of matters that might appear in such a representation letter include the following:

    a. Management's (responsible party's) assertion about the subject matter based on the criteria selected

    b. A statement acknowledging responsibility for the subject matter and, when applicable, the assertion

    c. A statement acknowledging responsibility for selecting the criteria, when applicable

    d. A statement acknowledging responsibility for determining that such criteria are appropriate for its purposes, when the responsible party is the client

    e. A statement acknowledging ownership of the emissions or emission reductions

    f. A statement that all known matters contradicting the assertion or presentation and any communication from regulatory agencies affecting the subject matter or the assertion have been disclosed to the practitioner

    g. A statement regarding the absence of undisclosed or unrecorded emission sources

    h. A statement that knowledge of illegal acts, fraud, or suspected illegal acts or fraud affecting the entity involving (i) management, (ii) employees who have significant roles in the entity's processes and procedures relating to measurements of emissions in conformity with the criteria specified previously, or (iii) others when the illegal acts or fraud could have a material effect on measurements of emissions in

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conformity with the selected criteria has been disclosed to the practitioner

i. A statement that management (responsible party) has disclosed to the practitioner all significant deficiencies in the design or operation of internal control over its GHG inventory

j. A statement regarding the availability of all records relevant to the subject matter

k. A statement that management (responsible party) has responded fully to all inquiries made by the practitioner during the engagement

l. A statement that any known events subsequent to the period (or point in time) of the subject matter being reported on that would have a material effect on the subject matter (or, if applicable, the assertion) have been disclosed to the practitioner

m. Other matters as the practitioner deems appropriate

n. Relevant to an emission reduction, a statement regarding the business purpose of the emission reduction project

o. Relevant to an emission reduction, a statement that the reduction is both real and additional to any requirements

Appendix C includes an illustrative management representation letter.

68. When the client is not the responsible party, the practitioner should consider obtaining a letter of written representations from the client as part of the attest engagement. Examples of matters that might appear in such a representation letter include the following:

a. A statement regarding whether the client is aware of any matters that might contradict the subject matter or the assertion

b. A statement that all known events subsequent to the period (or point in time) of the subject matter being reported on that would have a material effect on the

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subject matter (or, if applicable, the assertion) have been disclosed to the practitioner

c. A statement acknowledging the client's responsibility for selecting the criteria, when applicable

d. A statement acknowledging the client's responsibility for determining that such criteria are appropriate for its purposes

e. Other matters as the practitioner deems appropriate

69. If the responsible party or the client refuses to furnish all written representations that the practitioner deems necessary, a scope limitation exists, and the practitioner should consider the effects of such a refusal on his or her ability to issue a conclusion about the subject matter. In an examination, if the practitioner believes that the representation letter is necessary to obtain sufficient evidence to issue a report, the responsible party's or the client's refusal to furnish such evidence in the form of written representations is sufficient to preclude an unqualified opinion and is ordinarily sufficient to cause the practitioner to disclaim an opinion or withdraw from an examination engagement. However, based on the nature of the representations not obtained or the circumstances of the refusal, the practitioner may conclude, in an examination engagement, that a qualified opinion is appropriate. Further, the practitioner should consider the effects of the refusal on his or her ability to rely on other representations. When a scope limitation exists in a review engagement, the practitioner should withdraw from the engagement. (See paragraph .75 of AT section 101.)

Reporting

70. AT section 101 permits the practitioner to report either on the written assertion or directly on the subject matter to which the assertion relates. However, as stated in paragraph .66 of AT section 101, if conditions exist that, individually or in combination, result in one or more material misstatements or deviations from the criteria, the practitioner should modify the report and, to most effectively

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communicate with the readers of the report, should ordinarily express his or her conclusion directly on the subject matter, not on the assertion.

71. The report may contain a paragraph emphasizing measurement uncertainties, such as the following:

> As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

72. When the measurement methods, and the application thereof, have not been consistent from period to period, the practitioner should consider whether to modify the practitioner's report. The form of the modification depends on the circumstances (for example, whether the presentation or management's assertion appropriately disclose those facts or whether prior periods, if presented or used in the calculation of a reduction, are restated). If the responsible party (that is, in most cases, the client) does not appropriately restate the baseline and prior period(s) inventory for a material change, the practitioner should include an explanatory paragraph in the practitioner's report describing the lack of consistency and should express a qualified or adverse opinion in an examination report or a modified conclusion in a review report due to a departure from the criteria. If the responsible party does appropriately restate, the practitioner should consider including an explanatory paragraph (following the opinion or conclusion paragraph) in his or her report that refers to the change in the measurement methods or application.

73. When the practitioner is engaged to report on GHG emissions of one or more particular locations or subsidiaries or on reductions related to one or more specific projects, the report may include a paragraph stating that the practitioner was not engaged to examine or review the entity-wide emissions or reductions and, accordingly, the practitioner is not expressing any form of conclusion on such entity-wide information.

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74. When the trading program or GHG registry contains specific materiality requirements that are more stringent than those of AT section 101, the practitioner may include a reference to those requirements in the attest report.

75. AT section 101 requires the report on an attest engagement to contain a statement of management's responsibility for the subject matter or the assertion. The statement of management's responsibility may also address management's responsibility for selecting and adhering to the criteria used.

76. Illustrative reports for the following are included in the appendixes noted:

- Appendix D: Examination of an entity's GHG emissions information for a period of time
- Appendix E: Examination of an entity's GHG emission reduction information
- Appendix F: Review of an entity's GHG emissions information for a period of time
- Appendix G: Review of an entity's GHG emission reduction information

77. The practitioner, in his or her attest report, may refer to the report of another practitioner under the following circumstances:

- When reporting on an attest engagement on GHG emissions and another practitioner has reported on the GHG emissions of a subsidiary or other component of the client entity
- When reporting on an attest engagement on an emission reduction and another practitioner has reported on the entity's GHG inventory for the prior period

See example 3 in appendix D and appendix F in this SOP, respectively, for an example examination and review report that refers to the report of another practitioner.

78. The practitioner reporting on the emission reduction would only be able to make reference to the report of the practitioner reporting on the GHG inventory information

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if both practitioners are reporting at the same level of assurance on emissions information for the same emission source(s) addressed by the reduction project. For example, in an emission reduction engagement

- if practitioner A reported on an examination of GHG inventory for Plant X for which practitioner B is reporting on an examination of the emission reduction, practitioner B may divide responsibility by referring to the work of practitioner A in his or her report. However, if practitioner A reported on an examination of the company's GHG inventory for its nationwide operations taken as a whole, practitioner B, who is reporting only on an examination of the reduction project at Plant X, would need to perform sufficient additional procedures on the GHG inventory at Plant X and would not refer to the work of practitioner A in his or her report.
- if practitioner A reported on a review of GHG inventory for Plant X for which practitioner B is reporting on an examination of the emission reduction, practitioner B would need to perform sufficient additional procedures on the GHG inventory at Plant X and should not refer to the work of practitioner A in his or her report.

Attest Documentation

79. Paragraphs .100–.107 of AT section 101 set documentation requirements. The practitioner should be aware that the GHG registry or regulatory program relevant to the attest engagement may have set additional documentation requirements for those providing assurance on GHG emissions inventories or reductions (sometimes referred to as *verifiers*).

Effective Date

80. This SOP is effective for reports on GHG emissions information issued on or after September 15, 2013. Early implementation is permitted.

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APPENDIX A

Glossary

additionality. A project is *additional* if it would not have happened but for the incentive provided by the credit trading program (for example, Clean Development Mechanism [CDM] or Joint Implementation [JI]). The Kyoto Protocol specifies that only projects that provide emission reductions that are *additional* to any that would occur in the absence of the project activity shall be awarded certified emission reductions (CERs) in the case of CDM projects or emission reduction units (ERUs) in the case of JI projects. This is often referred to as *environmental additionality*. *Financial additionality* is the notion that a project is made commercially viable through its ability to generate value in the form of certified emission reductions. Various greenhouse gas (GHG) registries or regulatory frameworks may define these terms differently.

allowance. The unit of trade under a trading system. In a closed trading system, trading of allowances is permitted only between parties subject to the program or regulatory system. Allowances grant the holder the right to emit a specific quantity (for example, one ton) of emissions once. The total quantity of allowances issued by regulators dictates the total quantity of emissions possible under the system. Allowances are typically granted to emitters by governmental entities or agencies either for free or for a fee. At the end of each compliance period, each source must surrender sufficient allowances to cover its emissions during that period. In an open trading system, trades can be made between parties within the system and parties outside the system.

baseline. The amount of the entity's emissions for a specified base year against which any future changes in emissions are evaluated. Emission reductions targets are often expressed as a percent reduction from the baseline emission level.

boundaries. There are two types of boundaries: organizational and operational. When accounting for GHG emissions from

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partially owned entities, it is important to draw clear organizational boundaries, which should be consistent with the organizational boundaries that have been drawn up for financial reporting purposes. After the entity has determined its organizational boundaries in terms of the entities it owns or controls, it must then set operational boundaries with respect to direct and indirect emissions. The World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol provides additional guidance on setting organizational and operational boundaries with respect to GHG emissions.

closed trading system. In a closed trading system, trading of allowances is permitted only between parties subject to the program or regulatory system. See also **open trading system**.

credit. The term *credit* is used in a number of contexts, most commonly in relation to emission reductions that have been achieved in excess of the required amount for one of the following:

- The Kyoto Protocol's JI, also known as ERUs
- The Kyoto Protocol's CDM, specifically known as CERs
- The Kyoto-related and voluntary trading programs

data assembly. The process the entity uses to "roll-up" individual site or process level information to a facility- or corporate-level report. For example, the entity may choose to have a manufacturing unit report only the number of widgets it produced each year and have corporate-level environmental staff apply the appropriate emission factors to calculate the resultant emissions. Alternatively, the entity may choose to have all calculations done at the operational level and assign only quality control responsibilities to the corporate staff.

direct GHG emissions. Direct GHG emissions, or scope 1 emissions, are emissions from sources that are owned or controlled by the entity. These are emissions associated with the following:

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- Stationary combustion from fuel burned in the entity's stationary equipment, such as boilers, incinerators, engines, and flares
- Mobile combustion from fuel burned in the entity's transport devices, such as trucks, trains, airplanes, and boats
- Process emissions from physical or chemical processes, such as cement manufacturing, petrochemical processing, and aluminum smelting
- Fugitive emissions, which are intentional and unintentional releases, such as equipment leaks from joints and seals and emissions from wastewater treatment, pits, and cooling towers

emissions factor. A mathematical factor or ratio for converting the measure of an activity (for example, liters of fuel consumed, kilometers travelled, the number of animals in husbandry, or tons of product produced) into an estimate of the quantity of GHGs associated with that activity.

emission reduction. The process by which an entity reduces its emissions of GHGs as compared to a baseline.

GHG inventory. An entity's GHG emissions for a specified period, typically a year or a series of years, is referred to as its GHG inventory. See also **baseline**.

indirect GHG emissions. Indirect emissions, or scope 2 reporting under the WRI/WBCSD Greenhouse Gas Protocol, represent emissions from the generation of imported or purchased electricity, heat, or steam. Other indirect emissions, or scope 3 reporting under the GHG Protocol, include the following:

- Employee business travel
- Outsourced activities, contract manufacturing, and franchises
- Transportation by the vendor or contractor of, for example, materials, products, waste, and employees
- Emissions from product use and end of life

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- Employee commuting
- Production of imported materials

inventory. See **GHG inventory**.

leakage. Leakage occurs when an emission reduction project causes emissions to increase beyond the project's boundaries. Entities entering into an emission reduction project typically must demonstrate that the emission reduction will not cause emissions to increase beyond the project's boundaries.

offset. Offsets are created when a source makes voluntary, permanent emission reductions that are in surplus to any required reductions. Entities that create offsets can trade them to other entities to cover growth or relocation. Regulators may be required to approve each trade. Regulators normally require a portion of the offsets to be retired to ensure an overall reduction in emissions. Offsets are an open system (an open system is one in which trades can be made between parties within the system and parties outside the system). One offset is an emission reduction that a pollution source has achieved in excess of permitted levels or required reductions, or both. The excess amount is the credit and can be sold on the market.

open trading system. In an open trading system, trades can be made between parties within the system and parties outside the system. See also **closed trading system**.

permits. Certificates of operation that allow holders to operate a facility provided they do not exceed a specified rate (kilograms/tons per day). Permits are often designated as an upper limit. Because few systems operate at 100 percent of capacity at all times, actual emissions are usually a fraction of the theoretical upper limit of allowed emissions. However, as new permits become harder to obtain, existing operations are motivated to increase their level of operations under their existing permits (for example, by adding a second shift, thereby legally increasing the overall quantity of emissions). **Allowances** are transferable, whereas the permit itself is attached to a specific installation or site.

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uncertainty. As used in the field of GHG emissions, uncertainty refers to uncertainty in the measurement of GHG emissions that arises from imprecise measurement methods and factors.

validation. The process used to ensure that a given project, if implemented, can achieve the projected reduction results. The entity may validate the feasibility of the design of an emission reduction project internally, or the entity may engage an outside party (typically an engineering or a consulting firm) to perform the validation.

verification. The objective and independent assessment of whether the reported GHG inventory properly reflects the GHG impact of the entity in conformance with preestablished GHG accounting and reporting standards. Some registries define *verification* as the process used to ensure that a given participant's GHG inventory (either the baseline or the annual result) has met a minimum quality standard and complied with a specific registry's procedures and protocols for calculating and reporting GHG emissions.

verified emission reductions. Verified emission reductions are created, in the absence of government rules, by project-based activities that are defined by the buyer and seller and verified by a third party.

Emissions Trading Programs

baseline-and-credit program. In a baseline-and-credit program (that is, credit- or project-based trading), each participant is provided a baseline against which its performance is measured. If an action is taken to reduce emissions, the difference between the baseline and the actual emissions, where actual emissions are less than the baseline, can be credited and traded. The baseline established for crediting purposes can be fixed or dynamic, decreasing or increasing over time. The key distinction between a cap-and-trade program and a baseline-and-credit program is that the former regulated sources' emissions are required to remain under an emissions cap, which is a fixed quantity. Such a limit is not necessarily imposed in a baseline-and-credit

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program. The Kyoto Protocol's CDM, for example, would operate as a baseline-and-credit program.[1]

cap-and-trade program. In a cap-and-trade program (that is, allowance-based trading), the maximum level of emissions that can be released from sources is set by the control authority. This level is the cap. All sources are required to have allowances to emit. The allowances are freely transferable; they can be bought or sold. The control authority issues exactly the number of allowances needed to produce the desired emission level. An example of this kind of system is the U.S. Environmental Protection Agency's nationwide Acid Rain Program, under which allowances of SO_2 and NOX can be traded to comply with an emissions cap.[2]

1. Adapted from Richard Rosenzweig and Josef Janssen, *The Emerging International Greenhouse Gas Market* (Arlington: Pew Center on Global Climate Change, 2002).
2. United States Environmental Protection Agency (EPA) (May 10, 2012), Cap and Trade, Retrieved November 29, 2012 from www.epa.gov/captrade/ and U.S. EPA (July 25, 2012), Acid Rain Program, Retrieved November 29, 2012, from www.epa.gov/airmarkets/progsregs/arp/index.html.

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APPENDIX B

Sources for GHG Emission Protocols and Calculation Tools

These tools are included solely as informational resources. They are not, however, endorsed by the AICPA.

Tool name	Website
World Resource Institute/World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol	www.ghgprotocol.org/standards/corporate-standard
GHG Calculation Tools (cross-sector and sector specific tools)	www.ghgprotocol.org/calculation-tools This website contains tools for calculating • N_2O emissions from the production of adipic acid. • CO_2 and PFC emissions from the production of aluminum. • CO_2 emissions from the production of ammonia. • CO_2 emissions from the production of cement. • HFC-23 emissions from the production of HCFC-22. • CO_2 emissions from the production of iron and steel. • CO_2 emissions from the production of lime.

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Tool name	Website
	• N_2O emissions from the production of nitric acid. • CO_2 emissions from mobile combustion. • GHG emissions from office-based organizations. • GHG emissions from pulp and paper mills. • PFC emissions from the production of semiconductor wafers. • CO_2 emissions from stationary combustion.
The Climate Registry	www.theclimateregistry.org www.theclimateregistry.org/resources/protocols/ www.theclimateregistry.org/resources/verification/

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APPENDIX C

Illustrative Management Representation Letter

[*Date*]

[*Name of CPA Firm*]

We are providing this letter in connection with your [*examination/review*] of our assertion(s) that [*describe assertion(s), for example, the accompanying schedule of greenhouse gas (GHG) emissions for XYZ Company for the year ended December 31, 20XX, is presented in conformity with* (*identify criteria used, for example, the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard and the Corporate Value Chain [Scope 3] Accounting and Reporting Standard published by the World Business Council for Sustainable Development and the World Resource Institute)*].

We are responsible for [*describe assertions and subject matter*]. We further confirm that we are responsible for the selection of [*identify criteria*] as the criteria against which you are evaluating our assertion(s). Further we confirm that we are responsible for determining that [*identify criteria*] represent appropriate criteria for our purposes.

We confirm, to the best of our knowledge and belief, the following representations made to you during your [*examination/review*]:

1. We are not aware of any matters contradicting the assertion(s), nor have we received any communications from regulatory agencies or [*identify organizations to which the company reports GHG emissions*] affecting the subject matter or our assertion(s) on such subject matter.
2. We have disclosed to you all significant emission sources. There are no material emissions that have not been recorded in the greenhouse gas (GHG) emission records underlying our assertion(s) referred to above. GHG emissions have been reported for the entities where the Company has operational control.

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3. There has been no (*a*) fraud involving management or employees who have significant roles in the Company's processes and procedures relating to measurements of emissions in conformity with the criteria specified above or (*b*) fraud involving others that could have a material effect on measurements of emissions in conformity with the selected criteria.
4. There are no significant deficiencies in the design or operation of the Company's internal control over its GHG inventory.
5. We have made available to you all records relevant to your [*examination/review*] of the aforementioned subject matter or assertion(s).
6. We have responded fully to all inquiries made by you during the engagement.
7. [*Add additional representations as deemed appropriate.*]

We are not aware of any events that occurred subsequent to the period being reported on and through the date of this letter that would have a material effect on the aforementioned subject matter or assertion(s).

_____

[*Name of chief executive officer and title*]

_____

[*Name of corporate environmental officer and title*]

[*The following illustrates an example of a written assertion and additional representations that should be obtained in connection with GHG emission reductions:*]

Example assertion in connection with an emission reduction:

XYZ Company reduced GHG emissions in connection with project ABC by 50,000 tons of CO_2 equivalents for the year ended December 31, 20XX, based on [*identify criteria selected by the responsible party*].

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Additional representations:

The GHG emission reduction project was undertaken for the purpose of [*describe business purpose*]. The GHG emission reductions were achieved as a direct result of the project and not as a result of any changes in activity level. The GHG emission reductions related to the project are both real and additional to any requirements. Further, we have satisfactory title to all GHG emission reduction credits related to the project, and there are no liens or encumbrances on such GHG emission reduction credits, nor have any GHG emission reduction credits been pledged as collateral.

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APPENDIX D

Illustrative Examination Reports on GHG Emissions Information

The examination report examples illustrated herein are for general use. See paragraphs .78–.83 of AT section 101, *Attest Engagements* (AICPA, *Professional Standards*), for requirements and guidance on restricting the use of an attest report.

Example 1—Examination Report on Subject Matter

Independent Accountant's Report

We have examined the accompanying schedule of greenhouse gas emissions of XYZ Company for [*identify period, for example, the year ended December 31, 20XX*]. XYZ Company's management is responsible for the schedule. Our responsibility is to express an opinion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included obtaining an understanding of the nature of the company's greenhouse gas emissions; examining, on a test basis, evidence supporting the company's schedule of greenhouse gas emissions; and performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

In our opinion, the schedule referred to above presents, in all material respects, the greenhouse gas emissions of XYZ Company for [*identify period, for example, the year ended December 31, 20XX*] in conformity with [*identify criteria*].

[*Signature*]

[*Date*]

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Example 2—Examination Report on Management's Assertion

Independent Accountant's Report

We have examined management's assertion that [*identify the assertion, for example, the accompanying schedule of greenhouse gas emissions for XYZ Company for the year ended December 31, 20XX, is presented in conformity with* (*identify criteria*)]. XYZ Company's management is responsible for the assertion. Our responsibility is to express an opinion on the assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included obtaining an understanding of the nature of the company's greenhouse gas emissions; examining, on a test basis, evidence supporting management's assertion; and performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

In our opinion, management's assertion referred to above is fairly stated, in all material respects, based on [*identify criteria*].

[*Signature*]

[*Date*]

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Example 3—Examination Report on Subject Matter; Includes Reference to the Examination Report of Another Practitioner

Independent Accountant's Report

We have examined the accompanying schedule of greenhouse gas emissions of XYZ Company and subsidiaries for the year ended December 31, 20XX. XYZ Company's management is responsible for the schedule. Our responsibility is to express an opinion based on our examination. We did not examine the schedule of greenhouse gas emissions for ABC Company, a wholly owned subsidiary, which reflected 20 percent of the related consolidated emissions. This schedule was examined by other accountants, whose report has been furnished to us and our opinion, insofar as it relates to the amounts included for ABC Company, is based solely on the report of the other accountants.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included obtaining an understanding of the nature of the company's greenhouse gas emissions; examining, on a test basis, evidence supporting the company's schedule of greenhouse gas emissions; and performing such other procedures as we considered necessary in the circumstances. We believe that our examination and the report of the other accountants provide a reasonable basis for our opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

In our opinion, based on our examination and the report of the other accountants, the schedule referred to above presents, in all material respects, the greenhouse gas emissions of XYZ Company for the year ended December 31, 20XX, in conformity with [*identify criteria*].

[*Signature*]

[*Date*]

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APPENDIX E

Illustrative Examination Reports on GHG Emission Reduction Information

The examination report examples illustrated herein are for general use. See paragraphs .78–.83 of AT section 101, *Attest Engagements* (AICPA, *Professional Standards*), for requirements and guidance on restricting the use of an attest report.

Example 1—Examination Report on Subject Matter

Independent Accountant's Report

We have examined the schedule of reductions of greenhouse gas emissions of XYZ Company related to the ABC project for the year ended December 31, 20XX, from its GHG emissions in the prior year. XYZ Company's management is responsible for the schedule. Our responsibility is to express an opinion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included obtaining an understanding of the nature of the company's greenhouse gas emissions; examining, on a test basis, evidence supporting the greenhouse gas emission reduction information; and performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Our engagement related to the specific project identified above. We were not engaged to, and did not, examine XYZ Company's entity-wide greenhouse gas emissions inventory or whether XYZ

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Company has reduced its entity-wide greenhouse gas emissions inventory. Accordingly, we do not express an opinion or any other form of assurance on its entity-wide greenhouse gas emissions inventory or changes from prior periods.

In our opinion, the schedule of reductions of greenhouse gas emissions of XYZ Company related to ABC project for the year ended December 31, 20XX is presented, in all material respects, in conformity with [*identify criteria*].

[*Signature*]

[*Date*]

Example 2—Examination Report on Management's Assertion

Independent Accountant's Report

We have examined management's assertion that [*identify the assertion, for example, XYZ Company reduced GHG emissions in connection with project ABC by 50,000 tons of CO_2 equivalents for the year ended December 31, 20XX, from its GHG emissions in the prior year*] based on [*identify criteria selected by management*]. XYZ Company's management is responsible for the assertion. Our responsibility is to express an opinion on the assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included obtaining an understanding of the nature of the company's greenhouse gas emissions; examining, on a test basis, evidence supporting management's assertion; and performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

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Our engagement related to the specific project identified above. We were not engaged to, and did not, examine XYZ Company's entity-wide greenhouse gas emissions inventory or whether XYZ Company has reduced its entity-wide greenhouse gas emissions inventory. Accordingly, we do not express an opinion or any other form of assurance on its entity-wide greenhouse gas emissions inventory or changes from prior periods.

In our opinion, management's assertion referred to above is fairly stated, in all material respects, based on the [*identify criteria*].

[*Signature*]

[*Date*]

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APPENDIX F

Illustrative Review Reports on GHG Emissions Information

The review report examples illustrated herein are for general use. See paragraphs .78–.83 of AT section 101, *Attest Engagements* (AICPA, *Professional Standards*), for requirements and guidance on restricting the use of an attest report.

Example 1—Review Report on Subject Matter

Independent Accountant's Report

We have reviewed the accompanying schedule of greenhouse gas emissions of XYZ Company for [*identify period, for example, the year ended December 31, 20XX*]. XYZ Company's management is responsible for the schedule.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. A review consists principally of applying analytical procedures and making inquiries of persons responsible for the greenhouse gas emission information. A review is substantially less in scope than an examination, the objective of which is the expression of an opinion on the company's schedule of greenhouse gas emissions. Accordingly, we do not express such an opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Based on our review, nothing came to our attention that caused us to believe that the schedule referred to above is not presented, in all material respects, in conformity with [*identify criteria*].

[*Signature*]

[*Date*]

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Example 2—Review Report on Management's Assertion

Independent Accountant's Report

We have reviewed management's assertion that [*identify the assertion, for example, the accompanying schedule of greenhouse gas emissions for XYZ Company for the year ended December 31, 20XX, is presented in conformity with* (*identify criteria*)]. XYZ Company's management is responsible for the assertion.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. A review consists principally of applying analytical procedures and making inquiries of persons responsible for the assertion. A review is substantially less in scope than an examination, the objective of which is the expression of an opinion on management's assertion. Accordingly, we do not express such an opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Based on our review, nothing came to our attention that caused us to believe that management's assertion referred to above is not fairly stated, in all material respects, based on the [*identify criteria*].

[*Signature*]

[*Date*]

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Example 3—Review Report on Subject Matter; Includes Reference to the Review Report of Another Practitioner

Independent Accountant's Report

We have reviewed the accompanying schedule of greenhouse gas emissions of XYZ Company and subsidiaries for the year ended December 31, 20XX. XYZ Company's management is responsible for the schedule. We have not reviewed the schedule of greenhouse gas emissions for ABC Company, a wholly owned subsidiary, which reflected 20 percent of the related consolidated emissions. That schedule was reviewed by other accountants, whose report has been furnished to us, and our conclusion, insofar as it relates to the amounts included for ABC Company, is based solely on the report of the other accountants.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. A review consists principally of applying analytical procedures and making inquiries of persons responsible for the greenhouse gas emission information. A review is substantially less in scope than an examination, the objective of which is the expression of an opinion on the company's schedule of greenhouse gas emissions. Accordingly, we do not express such an opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Based on our review and the report of the other accountants, nothing came to our attention that caused us to believe that the schedule referred to above is not presented, in all material respects, in conformity with [*identify criteria*].

[*Signature*]

[*Date*]

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APPENDIX G

Illustrative Review Reports on GHG Emission Reduction Information

The review report examples illustrated herein are for general use. See paragraphs .78–.83 of AT section 101, *Attest Engagements* (AICPA, *Professional Standards*), for requirements and guidance on restricting the use of an attest report.

Example 1—Review Report on Subject Matter

Independent Accountant's Report

We have reviewed the schedule of reductions of greenhouse gas emissions of XYZ Company related to the ABC project for the year ended December 31, 20XX, from its GHG emissions in the prior year. XYZ Company's management is responsible for the schedule.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. A review consists principally of applying analytical procedures and making inquiries of persons responsible for the greenhouse gas emission reduction information. A review is substantially less in scope than an examination, the objective of which is the expression of an opinion on the company's schedule of reductions of greenhouse gas emissions. Accordingly, we do not express such an opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Our engagement related to the specific project identified above. We were not engaged to, and did not, review XYZ Company's entity-wide greenhouse gas emissions inventory or whether XYZ

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Company has reduced its entity-wide greenhouse gas emissions inventory. Accordingly, we do not express any conclusion on its entity-wide greenhouse gas emissions inventory or changes from prior periods.

Based on our review, nothing came to our attention that caused us to believe that the schedule of reductions of greenhouse gas emissions of XYZ Company related to ABC project for the year ended December 31, 20XX, is not presented, in all material respects, in conformity with [*identify criteria*].

[*Signature*]

[*Date*]

Example 2—Review Report on Management's Assertion

Independent Accountant's Report

We have reviewed management's assertion that [*identify the assertion, for example, XYZ Company reduced GHG emissions in connection with project ABC by 50,000 tons of CO_2 equivalents for the year ended December 31, 20XX from its GHG emissions in the prior year*] based on [*identify criteria selected by management*]. XYZ Company's management is responsible for the assertion.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. A review consists principally of applying analytical procedures and making inquiries of persons responsible for the assertion. A review is substantially less in scope than an examination, the objective of which is the expression of an opinion on management's assertion. Accordingly, we do not express such an opinion.

As described in footnote X, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

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Our engagement related to the specific project identified above. We were not engaged to, and did not, review XYZ Company's entity-wide greenhouse gas emissions inventory or whether XYZ Company has reduced its entity-wide greenhouse gas emissions inventory. Accordingly, we do not express any conclusion on its entity-wide greenhouse gas emissions inventory or changes from prior periods.

Based on our review, nothing came to our attention that caused us to believe that management's assertion referred to above is not fairly stated, in all material respects, based on [*identify criteria*].

[*Signature*]

[*Date*]

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AICPA Sustainability Task Force

Beth A. Schneider, *Chair*
Dorsey L. Baskin
Mark Chapin
Henry J. Knipper
Marne L. Doman
Christian Geismann
Chris Smith

AICPA Staff

Charles E. Landes
Vice President
Audit and Attest Standards

Ahava Z. Goldman
Senior Technical Manager
Audit and Attest Standards

The Task Force acknowledges the assistance of
Raymon Adiletta.

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