

**Issues Paper – Emissions Assurance**

This Issues Paper summarizes matters raised at the three roundtables held to date and feedback from the Project Advisory Panel (PAP).<sup>1</sup> A verbal update of discussions at the European roundtable will be provided during the IAASB meeting.

**A. Background****What are GHG emissions?**

- A.1 Greenhouse gases (GHGs) trap heat in the atmosphere causing it to be warmer than it would otherwise be. They do this by allowing incoming solar radiation to pass through the earth's atmosphere, but inhibiting the outgoing infrared radiation (heat) from the surface and lower atmosphere from escaping into outer space.<sup>2</sup> They therefore act like a giant greenhouse around the earth.
- A.2 The principal greenhouse gases that enter the atmosphere because of human activities are:<sup>3</sup>
- Carbon Dioxide (CO<sub>2</sub>): Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.
  - Methane (CH<sub>4</sub>): Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
  - Nitrous Oxide (N<sub>2</sub>O): Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
  - Fluorinated Gases: Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes.
- A.3 According to the GHG Protocol,<sup>4</sup> every business has processes, products, or services that emit greenhouse gases either directly (e.g., through the burning of fuel in the business' plant or vehicles), or indirectly (e.g., through the use of electricity generated using fossil fuels).

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<sup>1</sup> Members of the PAP are noted in the cover memorandum.

<sup>2</sup> [http://www.climatechangenorth.ca/H1\\_Glossary.html](http://www.climatechangenorth.ca/H1_Glossary.html)

<sup>3</sup> <http://www.epa.gov/climatechange/emissions/index.html>

<sup>4</sup> “The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, Revised Edition, 2004” (The GHG Protocol) was developed by the World Business Council for Sustainable Development & World Resources Institute. It is commonly referred to in emissions inventories as the measurement, calculation and reporting criteria used. It is available for free download at [www.ghgprotocol.org/standards](http://www.ghgprotocol.org/standards). Another set of measurement, calculation and reporting criteria for emissions inventories is ISO 14064-1:2006 “Greenhouse Gases — Part 1: Specification

## What is an emissions inventory?

A.4 An emissions inventory is a quantified statement of an entity's GHG emission over a particular period. It is important to note that an "entity" for this purpose may be a complete organization, or an individual installation or facility within an organization – many regulatory requirements are aimed at individual installations or facilities that have emissions over a particular threshold, rather than at complete economic entities to which the installations or facilities belong. An emissions inventory usually:

- Discloses GHGs as carbon dioxide equivalents (CO<sub>2</sub>-e) so that the quantity of different gases can be meaningfully aggregated.
- Calculates emissions by measuring an activity, e.g., the distance travelled by a vehicle or the use of a particular fuel, and applying an "emission factor" that relates the measured activity to the emissions it causes, e.g., X tonnes of CO<sub>2</sub>-e per kilometer travelled or Y tonnes of CO<sub>2</sub>-e per liter of fuel. (Direct measurement of GHG emissions by monitoring concentration and flow rate can be used for some sources, but is less common.)
- Includes a categorization of emissions by source<sup>5</sup> (and perhaps, e.g., geographical segments), and explanatory notes including the measurement and calculation methods used.

An example of an emissions inventory is included as Agenda Item 6-B.

A.5 The reason an entity prepares an emissions inventory (sometimes known as its "carbon footprint") may be because:

- It is required to do so under a regulated disclosure regime, such as the National Greenhouse and Energy Reporting System in Australia;
- It is required to do so as part of an emissions trading scheme (ETS),<sup>6</sup> such as the European Union Greenhouse Gas Emission Trading Scheme (the EU ETS); or

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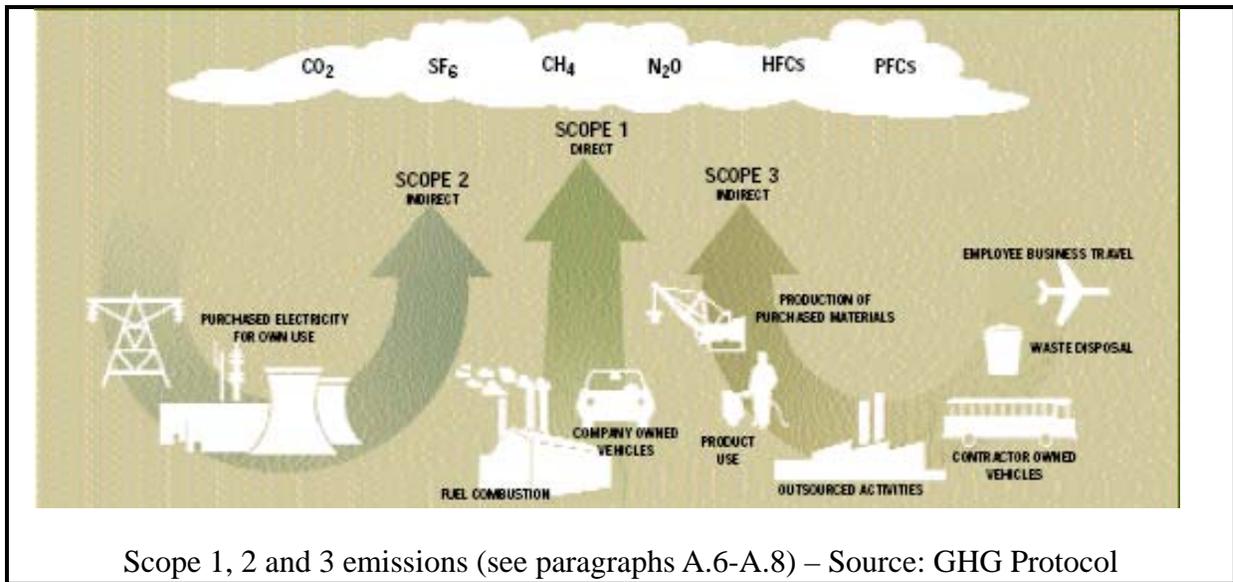
with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals," released in 2006 by the International Organization for Standardization. It is available for purchase at [www.iso.org/iso/iso\\_catalogue.htm](http://www.iso.org/iso/iso_catalogue.htm).

<sup>5</sup> The GHG Protocol offers the following broad categorization of sources of emissions:

- *Stationary combustion*: combustion of fuels in stationary equipment such as boilers, furnaces, burners, turbines, heaters, incinerators, engines, flares, etc.
- *Mobile combustion*: combustion of fuels in transportation devices such as automobiles, trucks, buses, trains, airplanes, boats, ships, barges, vessels, etc.
- *Process emissions*: emissions from physical or chemical processes such as CO<sub>2</sub> from the calcination step in cement manufacturing, CO<sub>2</sub> from catalytic cracking in petrochemical processing, PFC (perfluorocarbon) emissions from aluminum smelting, etc.
- *Fugitive emissions*: intentional and unintentional releases such as equipment leaks from joints, seals, packing, gaskets, as well as fugitive emissions from coal piles, wastewater treatment, pits, cooling towers, gas processing facilities, etc.

- It decides to voluntarily disclose its emissions. Voluntary disclosure may be included as part of an entity’s broader sustainability report; it may be published as a stand alone document; it may be in the form of a response to a questionnaire, e.g., the Carbon Disclosure Project, which is “the largest repository of corporate greenhouse gas emissions data in the world,”<sup>7</sup> or it may be included in a “carbon register” such as the California Climate Action Registry.<sup>8</sup>

*Components of an emissions inventory*



- A.6 An emissions inventory will ordinarily include at least DIRECT EMISSIONS (called Scope 1 emissions in the GHG Protocol), which “*occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment.*”
- A.7 An emissions inventory may also include INDIRECT EMISSIONS, which the GHG Protocol splits into categories called Scope 2 and Scope 3.

<sup>6</sup> In an ETS, a central authority usually sets a limit, or “cap,” on carbon emissions, and entities in the scheme are given tradable credits (allowances) that represent the right to emit a specific amount of GHGs. The total amount of credits cannot exceed the cap, thereby limiting total emissions to that level. Entities that pollute beyond their allowance must either buy credits from those who pollute less than their allowance, or face penalties. In effect, the buyer is being fined for polluting, while the seller is being rewarded for having reduced emissions. Thus, entities that can easily reduce emissions will do so, and those for which it is harder will buy credits. The rationale behind such schemes is to provide market incentives for emission reductions to take place where the cost of the reduction is lowest.

<sup>7</sup> [www.cdproject.net](http://www.cdproject.net)

<sup>8</sup> [www.climateregistry.org](http://www.climateregistry.org)

- Scope 2 emissions, which are required to be reported under the GHG Protocol, are “GHG emissions from the generation of purchased electricity consumed by the company.” Scope 2 emissions are “indirect” because the physical emissions associated with electricity occurs at the facility where electricity is generated, rather than at the place where the electricity is consumed. Thus, turning on a light in an office block does not emit any GHGs at the office block, rather the GHGs caused by turning on that light are emitted where the electricity is generated.
  - Scope 3 emissions, which is an optional reporting category under the GHG Protocol, “are a consequence of the activities of the company, but occur from sources not owned or controlled by the company.” Examples of activities that give rise to Scope 3 emissions are: employee business travel; outsourced activities; consumption of fossil fuel or electricity required to use the entity’s products; extraction and production of materials purchased as inputs to the entity’s processes; and transportation of purchased fuels.
- A.8 The relative significance of Scopes 1, 2, and 3 emissions will vary considerably from entity to entity. For example, a company that owns and operates long-haul trucks would have high Scope 1 emissions because of the fuel burned in its trucks; a service organization’s biggest emissions may be through purchased electricity (Scope 2); and for an organization like IFAC, Scope 3 emissions through business travel may be the most significant contributor to its total emissions.
- A.9 Some entities provide emissions inventory information in the form of emissions intensity, i.e., emissions per unit of output, either in addition to, or in place of, absolute emission information. Disclosure in the form of emissions intensity is required by some regulatory schemes, e.g., Alberta’s Climate Change and Emissions Management scheme.

### **Why focus on emissions inventories?**

- A.10 There are other emissions-related information disclosures besides emissions inventories that could potentially be included in the scope of an IAASB pronouncement, e.g., claims that an entity, or certain product or services, are carbon neutral. These other disclosures are discussed in section J of this paper; however, judging by the discussion at roundtables held to date and feedback from PAP members, it appears that the most pressing need is for an IAASB pronouncement that deals with emissions inventories.
- A.11 Quantification of an entity’s emissions inventory (whether that entity is an entire organization or an individual installation or facility), is the backbone of all ETSs. Assurance of an entity’s emissions inventory when that entity is involved in an ETS is therefore likely to have a direct economic effect. The rules of the ETS also will usually include detailed measurement, calculation and reporting criteria, which are likely to be suitable (with or without supplementation) for the purposes of an assurance engagement.
- A.12 The assurance requirements for ETSs, including not only the assurance standard to be applied, but also qualification, registration, independence and other requirements for auditors, differ from jurisdiction to jurisdiction (even from member state to member state within the EU ETS). If this project were to result in an IAASB pronouncement on emissions

inventories, it is likely to be of assistance to ETS regulators in a number of jurisdictions who are looking to the accounting profession, amongst others, to assist them in determining how the assurance requirements will evolve in future. Also, given the financial statement effects of ETSs, an IAASB pronouncement on emissions inventories is likely to be of considerable assistance to financial statement auditors when they are considering the carrying value of an entity's emission trading rights.

- A.13 Focusing on emissions inventories would also have considerable utility beyond those entities involved with an ETS. The number of entities reporting, either under regulatory disclosure schemes or voluntarily (e.g., as part of a sustainability report prepared in accordance with the Global Reporting Initiative's G3 Guidelines,<sup>9</sup> which requires disclosure of direct and indirect emissions), is increasing, as too is the number of such reports that is being externally assured.
- A.14 Also, when an entity's claim of carbon neutrality<sup>10</sup> is based on an emissions inventory, as it should be, assurance of that inventory is a necessary precondition for assurance on the claim of carbon neutrality.
- A.15 If an IAASB pronouncement on emissions inventories is to be developed, technical issues about scope still remain that will need to be dealt with during the project, e.g.:
- What should be required of the practitioner if the criteria allow potentially material sources of Scope 1 or Scope 2 emissions to be excluded from the assurance engagement (the problem of "cherry picking")?
  - If the criteria allow choice as to which Scope 3 emissions are to be included in the inventory, should the auditor be satisfied not only with the disclosures that are made, but also that the entity's main Scope 3 emissions are included?
  - Where the entity's emissions inventory includes external offsets,<sup>11</sup> what minimum procedures should the practitioner perform (e.g., verify that disclosed offsets were purchased during the year; verify that they are properly described in the emissions inventory; or verify whether the claimed greenhouse gas removal or storage has been, or will be achieved)? How should those procedures vary, if at all, depending on whether the external offsets were purchased on the voluntary or the regulated market? What disclosures should be included in the assessor's report about offsets?
  - How should an IAASB pronouncement deal with emissions intensity information? For example, should it include requirements/guidance for evidence gathering procedures with respect to output measurements used?
  - How should an IAASB pronouncement deal with a claim of carbon neutrality that is extracted from an assured carbon inventory and presented on a stand-alone basis, or

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<sup>9</sup> [www.globalreporting.org/ReportingFramework/G3Guidelines](http://www.globalreporting.org/ReportingFramework/G3Guidelines)

<sup>10</sup> Claims of carbon neutrality are discussed further in section J of this Paper.

<sup>11</sup> Offsets are discussed further in section J of this Paper.

presented with only summarized emissions inventory information? For example, should guidance based on the ISA on summarized financial information be included?<sup>12</sup>

Any initial direction on these issues that the IAASB would care to provide at this stage would be welcome.

### **What about qualitative information published with an emissions inventory?**

A.16 Entities often publish qualitative or future oriented information along with their emissions inventory. That information may include the following, which is based on the reporting templates of the Climate Disclosure Standards Board (CDSB):<sup>13</sup>

- (a) Estimated future direct and indirect GHG emissions.
- (b) GHG emissions reduction targets and an analysis of performance against those targets.
- (c) Physical risks from climate change – an overview of current and potential material exposure to direct and indirect physical risks due to, e.g., changing weather patterns, sea level rises, shifts in species distribution, higher incidence of disease, changes in water availability, changes in temperature, variation in agricultural yield and growing seasons. Exposure to physical risks may arise from extreme events such as intense storms and hurricane activity and/or from more subtle changes such as shifts in species distribution and increased night-time temperatures.
- (d) Regulatory risks from climate change – an analysis of the material legal and financial effects that current and prospective climate change-related regulation may have on the company’s business and operations, e.g., emissions limits, energy efficiency standards, carbon taxation, process or product standards, and regulation of GHG emissions.
- (e) Strategic analysis, including:
  - A statement of the entity’s position on climate change, its responsibility to address climate change and its engagement with governments and advocacy organizations to influence climate change policy.
  - An explanation of all significant actions the entity is taking to minimize risks and maximize opportunities associated with climate change.
  - A description of corporate governance actions taken to address climate change, including involvement of those charged with governance.

A.17 There appears to be little support for developing an IAASB pronouncement that specifically deals with qualitative or future oriented information if it is published in the absence of an emissions inventory. When, however, it is published along with an emissions inventory that is

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<sup>12</sup> ISA 810 (Revised and Redrafted), “Engagements to Report on Summary Financial Statements.”

<sup>13</sup> The CDSB is a consortium of seven business and environmental organizations, including the World Economic Forum (WEF), formed in 2007 to jointly advocate “a generally-accepted framework for corporations to report climate change-related risks and opportunities, carbon footprints, and carbon reduction strategies and their implications for shareholder value in mainstream reports.” [www.cdproject.net/standards-board.asp](http://www.cdproject.net/standards-board.asp)

assured, an approach that appears to have support is to treat that information as “other information” in the same way ISA 720 (Redrafted)<sup>14</sup> treats a Chairman’s report, Management Discussion and Analysis, etc. published with financial statements. This approach can be depicted as follows:

Annual Reporting Model	Emissions Disclosure Mode
Financial statements: <ul style="list-style-type: none"> <li>• Audited in accordance with ISAs</li> </ul>	Emissions data: <ul style="list-style-type: none"> <li>• Assured in accordance with ISAE 3000 (or 34xx)</li> </ul>
Chairman’s report, MD& A etc.: <ul style="list-style-type: none"> <li>• Published in the Annual Report along with the financial statements</li> <li>• Not audited/assured, but has been subject to ISA 720 (Redrafted)</li> </ul>	Risks, Strategy, Targets etc. <ul style="list-style-type: none"> <li>• Published in a periodic Emissions Report along with inventory data</li> <li>• Not assured, but has been subject to ISA 720 (Redrafted) equivalent</li> </ul>

A.18 This approach would likely amount to the practitioner reading the qualitative or future oriented information to identify material inconsistencies, if any, with the assured emissions inventory. This approach is consistent with that emerging from the CDSB.

## B. Levels of Assurance

### Issue

B.1 Should an IAASB pronouncement deal with both reasonable and limited assurance engagements?

### Background

B.2 Both reasonable assurance engagements and limited assurance engagements are currently performed with respect to emissions inventories. For example, the EU ETS requires reasonable assurance, whereas Alberta’s Climate Change and Emissions Management scheme has opted for limited assurance at this time.

B.3 A range of alternative approaches could underlie how an IAASB pronouncement deals with the level of assurance for emissions inventory engagements. The main alternatives appear to be:

- (a) Requiring engagements to be reasonable assurance engagements unless a limited assurance engagement is required by law or regulation.
- (b) Noting that either reasonable or limited assurance engagements may be undertaken, but that the market is likely to require reasonable assurance engagements in most cases,

<sup>14</sup> ISA 720 (Redrafted), “The Auditor’s Responsibility in Relation to Other Information in Documents Containing Audited Financial Statements.”

and therefore focusing an IAASB pronouncement solely, or at least primarily, on reasonable assurance engagements. This is the approach taken in the AICPA's SoP 03-2: "While a review-level service relating to an entity's GHG inventory is permissible under existing attestation standards, it is most likely that the market will ultimately demand an examination-level service. Accordingly, this SOP provides guidance only on an examination-level service."<sup>15</sup>

- (c) Making an IAASB pronouncement equally applicable to both reasonable and limited assurance engagements. This would require the ISAE to distinguish between the 2 types of engagement in terms of both work effort and reporting. ISAE 3000<sup>16</sup> does not stipulate what procedures would be required for a limited assurance engagement, it simply notes that the procedures must be enough to result in a level of assurance that is meaningful, but which are deliberately of a lesser nature and/or extent than a reasonable assurance engagement. If the ISAE were to cover limited assurance engagements, the sort of issues that would arise include:
- Should the IAASB specify particular procedures that should be performed and those that need not be performed (relative to a reasonable assurance engagement) on all limited assurance engagements regarding emissions inventories, or should the nature of procedures be allowed to differ from engagement to engagement as decided by the practitioner, the entity, and/or users (for example, regulators)?
  - If the ISAE is to determine the procedures to be performed on all limited assurance engagement, what should they be; and as a corollary, which procedures performed in a reasonable assurance engagement need not be performed for a limited assurance engagement. For example should practitioners be required to:
    - Have an "audit level" understanding of the organization as a basis for directing work effort?
    - Perform a formal risk assessment as a basis for directing work effort?
    - Conduct some substantive tests of detail?

## Discussion

- B.4 Judging by the discussion at roundtables held to date and feedback from PAP members, there appears to be a commonly held belief that reasonable assurance is preferable to limited assurance. This was more apparent at the roundtables held in Australia than at the roundtable held in Canada. This may be because limited assurance engagements on financial statements are more prevalent in North America than they are in Australia, and because the Alberta scheme has currently opted for limited assurance. Although a preference was expressed for

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<sup>15</sup> AICPA Statement of Position (SoP) 03-2, "Attest Engagements on Greenhouse Gas Emissions Information."

<sup>16</sup> International Standard on Assurance Engagements (ISAE) 3000, "Assurance Engagements Other than Audits or Reviews of Historical Financial Information."

reasonable assurance engagements, it was recognized nonetheless that the legitimacy of limited assurance should at least to be acknowledged in an IAASB pronouncement because:

- (a) Reasonable assurance is inevitably more costly than limited assurance, so limited assurance may legitimately be preferred when an entity is reporting voluntarily, particularly a smaller entity; and
- (b) The Alberta scheme has currently opted for limited assurance, as may other schemes in future. (An alternative view was put, however, that as the economic impact of emissions grows, e.g., through ETS carbon pricing, fines, and financial statement effects, the more likely it is that financial regulators and others will want “investment grade,” i.e., audit quality, assurance.)

#### B.5 Concerns expressed about limited assurance engagements included:

- Readers of an assurance report on an emissions inventory may not be as familiar with the concept of limited assurance and negatively expressed conclusions as financial statements users, and may misinterpret the level of assurance obtained, leading to an expectations gap. This may be exacerbated by the fact that the assurance report, in addition to noting the limitations of the assurance process, will likely include an explanation of the limitations of GHG measurement and the uncertainty associated with GHG data.
- Not all assurers of emissions inventories are professional accountants and it is not uncommon to find imprecise wording in assurance reports that confuses the level of assurance obtained, e.g., referring to the engagement as an audit and then giving a negatively expressed conclusion, or providing a positively expressed conclusion when it appears from the description of the work done that only limited assurance was obtained. Allowing for both reasonable assurance and limited assurance in an IAASB pronouncement may promote confusion and make it more difficult to prevent such practices.
- Because information systems for preparing emissions inventories are immature and errors are expected, it is not unusual for an assurer to perform a significant amount of detailed substantive testing, more commonly associated with a reasonable assurance engagement.
- It is questionable whether limited assurance is an adequate public policy response to compensate for an environment in which the risks of material misstatement are known to be high because, e.g., the process for generating GHG data is inherently less robust than for financial statements since it is not susceptible to self-balancing double entry, and information systems are currently immature. For example, a recent survey revealed that only 5 per cent of chief executive officers or chief financial officers have a high or even medium level of confidence in their GHG emissions data.<sup>17</sup>

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<sup>17</sup> Survey of 303 Australian companies with annual turnovers of at least A\$150 million, as reported in “Carbon Countdown -- A survey of executive opinion on climate change in the countdown to a carbon economy,” PwC, January 2008.

- B.6 If an IAASB pronouncement includes requirements/guidance for limited assurance engagements, it should include requirements/guidance on the nature, timing and extent of procedures to ensure consistency of work effort. This should likely include the assessor being required to go further than the inquiry and analytical procedures ordinarily associated with a review of financial statements (e.g., each of the questions in the final dot points of the Background section above would likely be answered affirmatively). Defining procedures will, however, be challenging given the diversity of industrial processes that cause GHG emissions, and inevitably a balance will need to be struck between guidance being at too high a level to yield consistency of work effort, and at too detailed as a level such that it invokes a rules-based, checklist approach.

## **C. Assertion-Based Versus Direct Reporting Engagements**

### **Issue**

- C.1 Should an IAASB pronouncement deal with both assertion-based and direct reporting engagements?

### **Background**

- C.2 In an assertion-based engagement, the reporting organization prepares the emissions inventory and publicly takes responsibility for it. In a direct reporting engagement, the emissions inventory only appears as part of the report prepared by the assessor (direct reporting engagements are more common in the public sector – performance audits are often direct reporting engagements).

### **Discussion**

- C.3 The prevailing view in discussion at roundtables held to date and feedback from PAP members is that an IAASB pronouncement should focus on assertion-based engagements only.

## **D. Professional Accountants**

### **Issue**

- D.1 To what extent, if at all, should an IAASB pronouncement be written from a perspective that contemplates its application by non-accountants?

*NOTE: This question applies more broadly than to this project alone, but has particular resonance in the context of emission assurance where non-accountants are currently performing such engagements as well as professional accountants in public practice.*

### **Background**

- D.2 Unlike financial statement audit engagements, it is not uncommon for emissions assurance engagements to be undertaken by professional engineers or environmental scientists in their own right (i.e., not as part of a team lead by a professional accountant in public practice).

- D.3 When such an engagement is undertaken by a professional accountant, a multi-disciplinary team would invariably be assembled and the following requirements of ISAE 3000 will apply:

The practitioner should accept (or continue where applicable) an assurance engagement only if the practitioner is satisfied that those persons who are to perform the engagement collectively possess the necessary professional competencies. (Para 9)

When the work of an expert is used in the collection and evaluation of evidence, the practitioner and the expert should, on a combined basis, possess adequate skill and knowledge regarding the subject matter and the criteria for the practitioner to determine that sufficient appropriate evidence has been obtained. (Para 26)

The practitioner should be involved in the engagement and understand the work for which an expert is used, to an extent that is sufficient to enable the practitioner to accept responsibility for the conclusion on the subject matter information. The practitioner considers the extent to which it is reasonable to use the work of an expert in forming the practitioner's conclusion. (Para 30)

The practitioner should obtain sufficient appropriate evidence that the expert's work is adequate for the purposes of the assurance engagement. (Para 33)

- D.4 Various measures are taken to regulate the quality of services delivered by professional accountants in public practice. Such measures include those taken by IFAC member bodies in accordance with IFAC's Member Body Compliance Program and Statements of Membership Obligations.<sup>18</sup> Measures include:

- Education and experience benchmarks for entry to the profession.
- Ongoing continuing professional development/life-long learning requirements.
- Competency requirements for providing particular services, e.g., International Education Standard for Professional Accountants (IES) 8, "Competence Requirements for Audit Professionals."
- Performance standards for particular engagements (in the case of emissions assurance: ISAE 3000, or a more specific IAASB pronouncement if developed).
- Quality assurance policies and procedures implemented at both: (a) the engagement level, and (b) the firm level.
- External quality assurance review/inspection programs.
- A strong and detailed Code of Ethics founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.
- Stringent investigative and disciplinary processes.

- D.5 ISAE 3000 states in paragraph 1 that its purpose "is to establish basic principles and essential procedures for, and to provide guidance to, professional accountants in public practice..." It

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<sup>18</sup> [www.ifac.org/MediaCenter/files/Member\\_Body\\_Compliance\\_Program.pdf](http://www.ifac.org/MediaCenter/files/Member_Body_Compliance_Program.pdf).

also includes a requirement to “comply with the requirements of Parts A and B of the IFAC Code of Ethics for Professional Accountants.”

- D.6 Nonetheless, published reports by non-accountants, e.g., assurance reports regarding sustainability, have cited ISAE 3000. This has given rise to questions about whether non-accountants have sufficient understanding of the assurance concepts and processes implicitly embedded in ISAE 3000 to be able to perform an engagement in a way that is comparable to how a professional accountant would perform the same engagement. This is not to deny the expertise of other professionals in their chosen field, but rather to acknowledge that ISAE 3000 was written with a presumption that it would be applied by professional accountants who are assurance experts and who, as well as being trained in the concepts and processes underlying ISAE 3000, are subject to the measures noted in paragraph D.4 above
- D.7 A similar issue arises when language and concepts from ISAE 3000, and the IAASB’s assurance framework, are included in standards developed by other bodies that are aimed at application by both accountants and non-accountants. This includes, e.g., the concepts of reasonable and limited assurance, and inherent, control, and detection risk. The issue is compounded when such concepts are included in other standards without full explanation, or with different and possibly conflicting requirements. For example, the concepts of reasonable and limited assurance are included in one standard without any requirement for a negative expression of conclusion to convey limited assurance; and in another standard that requires the level of assurance to be considered when establishing materiality.

## Discussion

- D.8 It was noted at the roundtables held in Australia that any emissions assurance standard produced by the Australian Auditing and Assurance Standards Board (AUASB) may be applicable to non-accountants as well as accountants, consistent with the AUASB’s mandate as a government instrumentality.
- D.9 It was noted at the roundtable held in Canada that the legislation for the Alberta scheme specifically acknowledges that assurance engagements may be undertaken by either professional accountants or professional engineers.
- D.10 PAP members offered a number of observations and suggestions on this issue, including:
- Whether or not an IAASB pronouncement is written for application by non-accountants, consultation with non-accountants while developing the pronouncement may lead to more consistency of approach between non-accountants and professional accountants.
  - If an IAASB pronouncement were to be written for application by non-accountants as well as professional accountant, it would be necessary to include specific mechanisms to refer to, or even replicate in some way, certain of the measures noted in paragraph D.4. If, on the other hand, an IAASB pronouncement were to be written for application by professional accountants only, it would be necessary to clearly put readers on notice that this is the case.

- The IAASB should consider whether the assurance report should include disclosures about the competencies (both assurance competencies, and subject matter competencies) of those performing the engagement.
  - ISAE 3000 notes that “*the practitioner may expand the assurance report to include other information and explanations that are not intended to affect the practitioner’s conclusion. Examples include: details of the qualifications and experience of the practitioner and others involved with the engagement ... Whether to include any such information depends on its significance to the needs of the intended users.*”
  - A financial statement audit report does not refer to experts used during the audit, nor does it include information about the expertise of the auditor with respect to auditing or financial reporting. It might be argued that the reason this is so is because it is generally accepted and understood by financial statement users that auditors are auditing and financial reporting experts, and that auditing standards require the auditor to bring to bear on the engagement any other expertise that may be relevant in the circumstances of the engagement, for example, actuarial expertise in the case of a life insurance entity.
  - In the case of emissions assurance engagements, it may be that many users are unfamiliar with the expected competencies of assurers, and with the requirements of assurance standards with respect to using the work of experts.
  - Disclosures about the competencies of those performing the engagement may be particularly important where emissions inventories are published voluntarily and the competency of assurers is unregulated.
- The IAASB should consider whether emissions assurance reports could be signed jointly by professional accountants (assurance experts) and subject matter experts. One possible way of ensuring “those persons who are to perform the engagement collectively possess the necessary professional competencies” is for accounting firms to form strategic alliances with firms of subject matter experts (in particular, engineers and scientists). Such alliances are becoming evident in the market place, although the existence of such alliances does not necessarily mean that assurance reports will be jointly signed.

D.11 A separate but related issue is what responsibilities should a professional accountant have with respect to any conflict that might exist between an IAASB pronouncement and the requirements of another standard, or of an ETS or other scheme such as an emissions information registry, many of which have regulations or protocols that direct the assurer with respect to certain aspects of the engagement? An example of a potential conflict may be that ISO 14064-3 requires the practitioner to “*communicate the (assurance) plan to the client and the responsible party*”, and related guidance says the practitioner should confirm the plan

with the client.<sup>19</sup> By way of contrast, ISA 300 says “*When discussing matters included in the overall audit strategy or audit plan, care is required in order not to compromise the effectiveness of the audit. For example, discussing the nature and timing of detailed audit procedures with management may compromise the effectiveness of the audit by making the audit procedures too predictable.*”<sup>20</sup>

D.12 The “Preface to the International Standards on Quality Control, Auditing, Review, Other Assurance and Related Services” states:

The IAASB’s pronouncements govern audit, review, other assurance and related services engagements that are conducted in accordance with International Standards. They do not override the local laws or regulations that govern the audit of historical financial statements or assurance engagements on other information in a particular country required to be followed in accordance with that country’s national standards. In the event that local laws or regulations differ from, or conflict with, the IAASB’s Standards on a particular subject, an engagement conducted in accordance with local laws or regulations will not automatically comply with the IAASB’s Standards. A professional accountant should not represent compliance with the IAASB’s Standards unless the professional accountant has complied fully with all of those relevant to the engagement.

## **E. Inventory Uncertainty**

### **Issue**

E.1 Emissions inventories are, necessarily, subject to uncertainty, and it is not uncommon for them to contain notes such as: “This figure varies slightly from that reported (previously) due to improved accuracy in calculation methodology.”<sup>21</sup> What is the effect of inventory uncertainty on the IAASB project?

### **Background**

E.2 As the GHG Protocol notes: “Preparing a GHG inventory is inherently both an accounting and a scientific exercise. Most applications for company-level emissions and removal estimates require that these data be reported in a format similar to financial accounting data. In financial accounting, it is standard practice to report individual point estimates (i.e., single value versus a range of possible values). In contrast, the standard practice for most scientific studies of GHG and other emissions is to report quantitative data with estimated error bounds (i.e., uncertainty).”

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<sup>19</sup> ISO 14064-3:2006, “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions.”

<sup>20</sup> ISA 300, “Planning an Audit of Financial Statements.”

<sup>21</sup> Commonwealth Bank of Australia’s “Shareholder Review 2008.”

- E.3 In developing emissions inventories, assessments of the causes and magnitude of uncertainties may be made, and may be disclosed as a measure of the quality of the inventory. The components of inventory uncertainty can be categorized as:<sup>22</sup>
- (a) Scientific uncertainty, which is related to incomplete scientific knowledge on emission processes; and
  - (b) Estimation uncertainty. When emissions are calculated by applying an emissions factor to a measurable activity, which is commonly the case, estimation uncertainty includes:
    - (i) The uncertainty associated with the emissions factor used. Emissions factors are suitable for particular circumstances only, so application of the same factors across a range of circumstances can lead to consistent, but inaccurate and potentially meaningless information. For example, because of differences in climate and topography, an entity in Alberta calculating methane from land-fills by using emissions factors based on readily available US data would be highly uncertain, as would using an emissions factor for electricity based on a national grid annual average that poorly reflects seasonal and hourly fluctuations in generation fuel mix corresponding to an entity's actual load profile; and
    - (ii) The uncertainty associated with quantifying the activity, e.g., when calculating the emissions of a fleet of vehicles, uncertainty will be lower if complete fuel use records are tallied and multiplied by fuel factors, than if distance by vehicle type is multiplied by average fuel use per distance factors.
- E.4 Scientific uncertainty is, for all practical purposes, beyond the control of the entity. Where emissions factors are entirely dictated by the criteria used, the entity also has no control over that aspect of uncertainty. The entity does, however, have control over the uncertainty associated with quantifying the activity (although in some cases, it seems that the criteria may also dictate data collection and aggregation methods).

## Discussion

- E.5 The existence of significant inventory uncertainty may be seen by some as a reputational risk that argues for the accounting profession not to be associated with emissions assurance. On the other hand, it appears to be commonly understood that scientific uncertainty and uncertainty associated with emissions factors exist, and may cause inventories to be restated in subsequent periods, but that this should not prevent best efforts to calculate and disclose emissions inventories. Further, it was noted at all roundtables that involvement of the accounting profession is of considerable value in reducing uncertainty because of the profession's expertise with internal control in systems to record, process, and report information. It is therefore in the public interest that the accounting profession takes a lead role in ensuring emissions inventories are of high quality.

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<sup>22</sup> This categorisation and explanation of inventory uncertainty has been simplified for the purpose of this Paper. A significantly more detailed and precise discussion of inventory uncertainty can be found in the GHG Protocol's publication "Measurement and Estimation Uncertainty of GHG Emissions," available at [www.ghgprotocol.org/downloads/calcs/ghg-uncertainty.pdf](http://www.ghgprotocol.org/downloads/calcs/ghg-uncertainty.pdf).

- E.6 It was also noted at all roundtables and in feedback from PAP members that many entity's emissions information systems are currently at an early stage of development, and do not have the controls that an auditor would ordinarily expect of a financial information system. An IAASB pronouncement should recognize this and offer guidance on the effect that immature systems may have on, e.g., engagement acceptance, assurance approach and procedures, and potential modifications required to the assurance report.
- E.7 Other implications of inventory uncertainty that may need to be elaborated on in an IAASB pronouncement include:
- Consideration of uncertainty associated with the emissions factor when determining the suitability of criteria, e.g., some criteria allow entity-, facility-, or even machine-specific methodologies for calculating emissions where that increases accuracy.
  - The relationship between estimation uncertainty, risk, and materiality.
  - Disclosure of the nature and causes of uncertainty in the assurance report, in the same way an assurance report on internal control discloses the limitations of control.

## **F. Suitable Criteria**

### **Issue**

- F.1 What guidance should an IAASB pronouncement provide with respect to the suitability of criteria?

### **Background**

- F.2 One of the foundations upon which the IAASB's approach to assurance engagements is based is that suitable criteria exist for preparation of the subject matter information by the entity. The assurance framework notes that the characteristics of suitable criteria are relevance, completeness, reliability, neutrality and understandability. ISAE 3000 requires the assurer to assess the suitability criteria.
- F.3 The approach taken in proposed ISAE 3402<sup>23</sup> to assessing the suitability of criteria was to identify in the ISAE the minimum elements that suitable criteria must include.
- F.4 The criteria used (or elements of those criteria) to prepare an emissions inventory may be included in laws or regulations, or standards such as the GHG Protocol, or they may be generated specifically for the engagement. The following elements might be considered necessary for criteria to be considered suitable:
- (a) The required method for setting the organizational boundary (i.e., for determining which entities/activities will be reported on);
  - (b) The GHGs required to be accounted for;
  - (c) A requirement to include all material Scope 1 and Scope 2 emissions sources;

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<sup>23</sup> Exposure Draft of Proposed ISAE 3402, "Assurance Reports on Controls at a Third Party Service Organization."

- (d) The required calculation approaches, including identification of relevant activity data and emissions factors; and
- (e) A requirement to disclose:
  - (i) The entities/activities included in the organizational boundary, and details of the specific method used for setting the organizational boundary if a choice between different methods is allowed;
  - (ii) The method used to determine which, if any, Scope 3 emissions have been included in the emissions inventory;
  - (iii) Separate disclosure of emissions attributable to each material source of Scope 1, Scope 2 and Scope 3 (if any) emissions included in the emissions inventory;
  - (v) Details of the specific calculation approaches used if a choice between different approaches is allowed;
  - (vi) Any significant interpretations made in applying the criteria in the entity's circumstances;
  - (vii) The nature, cause and effect of uncertainties in the information reported; and
  - (viii) Changes, if any, in the matters mentioned in this paragraph or in other matters that materially affect the comparability of the emissions inventory from the previous reporting period.

## **Discussion**

F.5 Feedback received from PAP members indicates that including minimum elements along the lines of those identified above would likely assist practitioners when determining whether the criteria to be used display the characteristics of suitable criteria noted in the assurance framework.

F.6 Other matters noted during roundtables upon which guidance may be needed include:

- Reconciliation of different criteria used for different purposes by the same entity. For example, the criteria an entity uses: (a) for its emissions inventory; (b) for financial reporting; and (c) for preparing a full sustainability report; may lead to a different organizational boundary (the entities/activities being reported on) for each.
- Whether criteria should include the equivalent of a true and fair override.
- The degree of granularity needed for criteria to render consistent inventories in similar circumstances.

## **G. Definitions**

### **Issue**

G.1 How should an IAASB pronouncement deal with the definition of emission-related terms that are defined elsewhere?

## Background

- G.2 Definitions of terms such as greenhouse gas, direct and indirect emissions, emissions inventory, and offset, will likely be important to an IAASB pronouncement. These terms are already defined in laws or regulations, or in documents such as the GHG Protocol.
- G.3 Alternative ways for an IAASB pronouncement to deal with such definitions include:
- (a) Inserting definitions in the pronouncement. Such definitions could be based on definitions contained in other documents (like laws or other standards) at the time the IAASB pronouncement is approved. This would provide confidence that use of the term has a set meaning whenever the IAASB pronouncement is applied. On the other hand, it means that the definition may be inconsistent with how use of the term evolves, or with current use of the term in some jurisdictions where its meaning differs by virtue of local law, regulations, standards or custom.
  - (b) Referencing a particular source for each definition, for example the definition of Scope 1, Scope 2, and Scope 3 could be referred back to the GHG Protocol. This would allow the meaning to change if/when the source changes. It may still lead to differences with laws etc. in some jurisdictions.
  - (c) Allowing the meaning to be whatever is determined by the law, regulation, standard, criteria etc that applies to the engagement. This is the most flexible approach, but potentially gives the least certainty about the meaning of such terms and the least international consistency.
- G.4 This issue was faced by the IAASB when considering what definition of “related party” to include in ISA 550 (Revised and Redrafted).<sup>24</sup> In that case, the IAASB adopted a hybrid approach as follows (see particularly the final paragraph of the definition):

### Related Party:

- (i) A person or other entity that has control or significant influence, directly or indirectly through one or more intermediaries, over the entity;
- (ii) Another entity over which the entity has control or significant influence, directly or indirectly through one or more intermediaries; or
- (iii) Another entity that is under common control with the entity through having:
  - a. Common controlling ownership;
  - b. Owners who are close family members; or
  - c. Common key management,and the entities have engaged in significant transactions or shared resources to a significant degree with one another.

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<sup>24</sup> ISA 550 (Revised and Redrafted), “Related Parties.”

When the applicable financial reporting framework provides additional criteria or more specificity in defining related parties, the definition in the framework is used in addition to (i) to (iii) above.

## Discussion

- G.5 Different preferences were expressed on this issue in feedback from PAP members although no particularly strong feelings were expressed or arguments put.
- G.6. A related matter raised at the roundtable held in Canada was that some useful terms that have achieved a certain degree of general acceptance are not used totally universally and, therefore, if used in an IAASB pronouncement may appear to be an endorsement of those sources that use them. For example, the terms Scope 1, Scope 2 and Scope 3, are used in the GHG Protocol but not, apparently, in ISO 14064-1:2006 (see footnote 4).

## H. Recommendations in the Assurance Report

### Issue

- H.1 Should an IAASB pronouncement comment on the desirability or otherwise of including the assurer's recommendations or other commentary in the assurance report?

### Background

- H.2 ISAE 3000 states that: *“the practitioner may expand the assurance report to include other information and explanations that are not intended to affect the practitioner's conclusion. Examples include: ... findings relating to particular aspects of the engagement, and recommendations. Whether to include any such information depends on its significance to the needs of the intended users.”*
- H.3 It is not uncommon for assurance reports on sustainability reports to include the assurer's recommendations to management for improvements to the entity's reporting practices or the entity's underlying sustainability practices. Particularly as a number of the practitioners who currently perform sustainability assurance engagements are likely to be the ones who perform emissions assurance engagements, this practice may carry over to emissions assurance.

### Discussion

- H.4 At the roundtables, a common view was that the publication of recommendations and advice to management in the assurance report is not appropriate:
- Publishing recommendations for improvements to reporting practices may pose a threat to independence.
  - While including recommendations may be justified for overall sustainability reports because the assessor could perhaps comment on strategies etc., that is not so for an emissions inventory.
  - It is essential that any additional information included in the assurance report does not contradict the practitioner's conclusion.

- Including recommendations in the assurance report may create unreasonable expectations, e.g., if it is common to recommend improvements to internal control, then a lack of such a recommendation may be taken as an opinion that controls are good.
- It would be appropriate to communicate recommendations with management and with those charged with governance.

## I. Technical Issues

- I.1 This section outlines a number of technical issues that would likely be considered in developing an IAASB pronouncement. It is anticipated that these will be discussed at future IAASB meetings after further consideration by the task force, but any initial direction on these issues that the IAASB would care to provide at this stage would be welcome.

### Materiality

#### *Issue*

- I.2 How do financial reporting concepts of materiality relate to materiality for emissions inventories?

#### *Discussion*

- I.3 Are the following financial statement audit requirements from ISA 320 (Revised and Redrafted)<sup>25</sup> directly adaptable to emission assurance?

#### **Determining Materiality and Performance Materiality when Planning the Audit**

10. When establishing the overall audit strategy, the auditor shall determine materiality for the financial statements as a whole. If, in the specific circumstances of the entity, there is one or more particular classes of transactions, account balances or disclosures for which misstatements of lesser amounts than materiality for the financial statements as a whole could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements, the auditor shall also determine the materiality level or levels to be applied to those particular classes of transactions, account balances or disclosures.
11. The auditor shall determine performance materiality for purposes of assessing the risks of material misstatement and determining the nature, timing and extent of further audit procedures.

#### **Revision as the Audit Progresses**

12. The auditor shall revise materiality for the financial statements as a whole (and, if applicable, the materiality level or levels for particular classes of

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<sup>25</sup> ISA 320 (Revised and Redrafted), “Materiality in Planning and Performing an Audit.”

transactions, account balances or disclosures) in the event of becoming aware of information during the audit that would have caused the auditor to have determined a different amount (or amounts) initially.

13. If the auditor concludes that a lower materiality for the financial statements as a whole (and, if applicable, materiality level or levels for particular classes of transactions, account balances or disclosures) than that initially determined is appropriate, the auditor shall determine whether it is necessary to revise performance materiality, and whether the nature, timing and extent of the further audit procedures remain appropriate.

I.4 For example, could ISA 320.10 be “translated” along the following lines:

When establishing the overall audit engagement strategy, the auditor practitioner shall determine materiality for the emissions inventory financial statements as a whole. If, in the specific circumstances of the entity, there is one or more particular types of emission classes of transactions, account balances or disclosures for which misstatements of lesser quantities amounts than materiality for the emissions inventory financial statements as a whole could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements emissions inventory, the auditor practitioner shall also determine the materiality level or levels to be applied to those particular types of emission classes of transactions, account balances or disclosures.

I.5 Other materiality issues include:

- Some measurement, calculation and reporting criteria include quantitative guidelines for materiality (e.g., “accurate GHG inventories must be within the materiality threshold of 5% of the verifier’s estimate of total emissions”<sup>26</sup>). What effect should this have on the guidance given in an IAASB pronouncement?
- How is materiality affected by aggregation/disaggregation of data, e.g., is the financial statements audit analogy re materiality at the subsidiary and the parent entity applicable?
- What is the relationship between materiality and the elements of inventory uncertainty?

## Requirements of other ISAs

### *Issue*

- I.6 To what extent should the extensive requirements of other ISAs, in particular key standards such as ISAs 240 (fraud), 260 (those charged with governance), 300 (planning), 315 (identifying and assessing risks), and 330 (responding to assessed risks), be adapted and included in an IAASB pronouncement?

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<sup>26</sup> “California Climate Action Registry - General Reporting Protocol, Version 3.0 2008”  
[www.climateregistry.org/resources/docs/protocols/grp/GRP\\_V3\\_April2008\\_FINAL.pdf](http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf).

*Discussion*

- I.7 The required process steps for assurance on any subject matter are much the same as they are for an audit of financial statements. The key ISAs that set out these steps are ISAs 300, 315 and 330. Other standards too contain fundamental requirements for an audit of financial statements, e.g., ISAs 240 and 260.
- I.8 The requirements, and guidance, of these ISAs, and others, could be “translated” in the same way that ISA 320.10 has been in paragraph I.4 above. This would lead to a very long IAASB pronouncement on emissions assurance, particularly when emissions-specific procedures are added.

**Reporting***Issue*

- I.9 What should be the content and wording of the assurance report on an emissions inventory?

*Discussion*

- I.10 Many reporting issues have been alluded to in the sections above, including:
- What disclosures should be included in the assurance report about offsets (paragraph A.15)?
  - Is guidance based on ISA 810 (Revised and Redrafted) is appropriate when a statement of carbon neutrality is extracted from an assured carbon inventory and presented with only summarized emissions inventory information (paragraph A.15)?
  - How should the difference between reasonable and limited assurance engagements be described (paragraph B.5)?
  - Should the assurance report include disclosures about the competencies of those performing the engagement (paragraph D.10)?
  - Can an assurance reports be signed jointly by professional accountants and subject matter experts (paragraph D.10)?
  - What should be included in the assurance report if there is a conflict between an IAASB pronouncement and other requirements applicable to the engagement (paragraph D.11)?
  - What modifications may be required to the assurance report when the entity’s information systems is immature (paragraph E.6)?
  - Should the nature and causes of inventory uncertainty be disclosed in the assurance report (paragraph E.7)?
  - Should the practitioner’s recommendations or other commentary be included in the assurance report (paragraph H.1)?
- I.10 A further reporting issue that was discussed at the roundtable held in Toronto was whether the practitioner’s conclusion should be expressed in a relatively standard format such as “the

emissions inventory is presented fairly in accordance with [the criteria],” or would it be more appropriate for the practitioner’s conclusion to relate to the process for collating the information. This issue arose from the discussion of inventory uncertainty, when it was noted that a range of reported volumes would be equally correct depending on scientific assumptions, data collection methods etc. This may make the following form of conclusion used for prospective information more appropriate than that used for historical financial statements:<sup>27</sup>

Based on our examination of the evidence supporting the assumptions, nothing has come to our attention which causes us to believe that these assumptions do not provide a reasonable basis for the projection, assuming that (state or refer to the hypothetical assumptions). Further, in our opinion the projection is properly prepared on the basis of the assumptions and is presented in accordance with ....

## **J. Other Emissions-Related Disclosures**

- J.1 As noted in paragraph A.10, there are emissions-related information disclosures besides emissions inventories that could potentially be included in the scope of an IAASB pronouncement. These other disclosures are outlined and discussed in this section.

### **Background**

#### *Claims of carbon neutrality*

- J.2 An entity may publish a statement claiming that it is carbon neutral (or carbon negative). This means that its gross emissions, less offsets (see below), are zero or negative. To be credible, such a claim should be based on a quantified emissions inventory. The claim of carbon neutrality may be included with a complete, or a summary, emissions inventory, or may be made as a standalone statement.
- J.3 While the concept of carbon neutrality is simple, there are varying interpretations of:
- (a) Which gross emissions need to be measured, e.g., should all Scope 1 and Scope 2 emissions be included, and which Scope 3 emissions, if any, need to be included?
  - (b) Which offsets are valid for this purpose, and how they should be measured.

#### *Offsets*

- J.4 “A ‘carbon offset’ is an emission reduction credit from another organization’s project that results in less carbon dioxide or other greenhouse gases in the atmosphere than would otherwise occur.<sup>28</sup> ... For example, wind energy companies often sell carbon offsets. The

<sup>27</sup> ISAE 3400, “The Examination of Prospective Financial Information,” paragraph 30.

<sup>28</sup> The GHG Protocol defines offsets as: “discrete GHG reductions used to compensate for (i.e., offset) GHG emissions elsewhere, for example to meet a voluntary or mandatory GHG target or cap. Offsets are calculated relative to a baseline that represents a hypothetical scenario for what emissions would have been in the absence of the mitigation project that generates the offsets. To avoid double counting, the reduction giving rise to the offset must occur at sources or sinks not included in the target or cap for which it is used.”

wind energy company benefits because the carbon offsets it sells make such projects more economically viable. The buyers of the offsets benefit because they can claim that their purchase resulted in new non-polluting energy, which they can use to mitigate their own greenhouse gas emissions. The buyers may also save money as it may be less expensive for them to purchase offsets than to eliminate their own emissions.

- J.4 “Many types of activities can generate carbon offsets. Renewable energy such as the wind farm example above, or installations of solar, small hydro, geothermal, and biomass energy can all create carbon offsets by displacing fossil fuels. Other types of offsets available for sale on the market include those resulting from energy efficiency projects, methane capture from landfills or livestock, destruction of potent greenhouse gases such as halocarbons, and carbon sequestration projects (through reforestation, or agriculture) that absorb carbon dioxide from the atmosphere. A GHG offset is generated by the reduction, avoidance, or sequestration of GHG emissions from a specific project.”<sup>29</sup>
- J.6 “Carbon offset markets exist both under compliance schemes and as voluntary programs. Compliance markets are created and regulated by mandatory regional, national, and international carbon reduction regimes, such as the Kyoto Protocol and the European Union’s Emissions Trading Scheme. Voluntary offset markets function outside of the compliance markets and enable companies and individuals to purchase carbon offsets on a voluntary basis. With more than €20 billion traded in 2006, carbon markets are already a substantial economic force and will likely grow considerably over the coming years. The voluntary market, although much smaller than the compliance market, (€2.6 million in 2006) is also growing rapidly.”<sup>30</sup>
- J.7 It is important to recognize that there are two quite different perspectives to an offset transaction: the seller’s perspective and the buyer’s perspective. Either or both the seller or the buyer may seek assurance.
- J.8 The seller may seek assurance to enhance the value of the offset. Assuring an offset from the seller’s perspective is a two stage process. Firstly, there is the initial “validation,” in which the project plans and quantification of projected reductions compared to a “business as usual” projection are assured; and secondly, there is an annual “verification,” in which progress against the project plans are assured.
- J.9 From a buyer’s perspective, a purchased offset will likely appear in its emissions inventory as a deduction from its gross emissions. Questions arise as to what responsibility the assurer of the buyer’s emissions inventory has with respect to the offset. For example, if an offset has been purchased which has been validated and verified from the seller’s perspective, need the buyer’s assurer simply ensure that disclosure of the offset is in accordance with what the buyer contracted for, or should the buyer’s assurer substantiate (validate and verify) the

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<sup>29</sup> [www.davidsuzuki.org/Climate\\_Change/What\\_You\\_Can\\_Do/carbon\\_offsets.asp](http://www.davidsuzuki.org/Climate_Change/What_You_Can_Do/carbon_offsets.asp)

<sup>30</sup> “Making Sense of the Voluntary Carbon Market – A Comparison of Carbon Offset Standards” May 2008 [www.wwfint.org/news\\_facts/publications/index.cfm?uNewsID=126700](http://www.wwfint.org/news_facts/publications/index.cfm?uNewsID=126700)

actual volume of the offset, perhaps through an ISA 402 (Revised and Redrafted)<sup>31</sup> or ISA 600 (Revised and Redrafted)<sup>32</sup> type relationship with the seller’s assurer?

*Product claims*

J.10 Entities make various claims about the GHG implications of their products (or services). Typically a claim of carbon neutrality is made, which requires the calculation of the GHG emissions attributable to a product, and therefore the volume of offsets that needs to be purchased to reduce the product’s impact to zero. The methodology for doing this generally requires a detailed Life Cycle Analysis, i.e., the aggregation of the GHG emissions of each step of all the components necessary or caused by the product’s existence, including extraction and processing of raw materials, manufacture, distribution, use and disposal, including all intervening transportation.

J.11 Examples of claims about the GHG implications of an entity’s product include:

- A brand of beer claims that it is carbon neutral – “we offset the full lifecycle of the greenhouse gas emissions associated with Cascade Green - right from picking the hops to putting it in the recycling bin. Meaning the net impact of the greenhouse gas emissions for Cascade Green is reduced to zero.”<sup>33</sup>
- A bank provides a “climate compensation credit card,” whereby “spending is allocated to some seven hundred different categories such as filling up, a visit to the theatre, tickets for a flight, purchases in a department store, and expenses on accommodation, meals, drinks and recreation, to name but a few. The average CO2 emission of each category is linked to the price in euros of CO2 emission ... When added together this gives us the total CO2 emission of all credit card spending. Rabobank is to compensate this emission by purchasing the CO2 emission rights of renewable energy projects with a Gold Standard label.”<sup>34</sup>
- An ISP claims to provide “carbon free hosting.” “To achieve this and to offset the carbon footprint of the server your website/web-application runs on, we will plant a tree with the Woodland Trust. But that’s not all, we will continue to plant a new tree every year that you remain with us. This means that in a few years not only will your website hosting be carbon free but you will be doing your bit to help reduce the carbon footprint of the ever growing IT industry.”<sup>35</sup>

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<sup>31</sup> ISA 402 (Revised and Redrafted), “Audit Considerations Relating to an Entity Using a Third-Party Service Organization.”

<sup>32</sup> ISA 600 (Revised and Redrafted), “Special Considerations — Audits of Group Financial Statements (Including the Work of Component Auditors).”

<sup>33</sup> [www.cascadegreen.com.au/how-are-we-green.aspx](http://www.cascadegreen.com.au/how-are-we-green.aspx)

<sup>34</sup> [www.rabobank.com/content/images/rabobank\\_case\\_study\\_climate\\_contribution\\_credit\\_card\\_tcm43-44399.pdf](http://www.rabobank.com/content/images/rabobank_case_study_climate_contribution_credit_card_tcm43-44399.pdf)

<sup>35</sup> [www.logibase.com/services/carbonFreeHosting.php](http://www.logibase.com/services/carbonFreeHosting.php)

*Financial statement effects*

- J.12 It is unlikely that the IASB or other accounting standard-setters will require disclosure of GHG emissions in the financial statements in the short or medium term. Nonetheless, with the introduction in 1998 of IAPS 1010,<sup>36</sup> the IAASB, or its predecessor the IAPC, explicitly acknowledged the financial statement effect of environmental matters generally. Further, implementation of the EU ETS in 2005, and other ETSs since then, has added a new and direct dimension to the financial statement effect of GHG emissions.
- J.13 When an entity is involved in an ETS, the carrying value of emission trading rights may be of particular significance when preparing its financial statements. This has been recognized by the IASB, which decided in December 2007 to re-activate its project on Emission Trading.<sup>37</sup>

**Discussion***Claims of carbon neutrality*

- J.14 An IAASB pronouncement specifically dealing with claims of carbon neutrality is not considered a priority. As noted in paragraph A.14, when an entity's claim of carbon neutrality is based on an emissions inventory, as it should be, assurance of that inventory is a necessary precondition for assurance on the claim of carbon neutrality. The other issues involved with determining the validity of such a claim are more a function of how the criteria deal with the issues noted in J.3 (and arithmetic), than it is an issue for assurance pronouncements.

*Offsets and Product claims*

- J.15 There was little support at the roundtables held to date or from PAP members to give high priority to developing a pronouncement that specifically deals with either product claims or offsets from the seller's perspective. Both these areas are more complex than assurance on an emissions inventory, and if included in the scope of this project would inevitably lead to delays in producing an IAASB pronouncement on emissions inventories:
- Assurance of product claims involves not only "verification" of emissions data, but also analysis of business processes to determine which emissions are attributable to a particular product. ISO standards exist on Life Cycle Analysis, which are used for this purpose.
  - Involvement in the offset market (in particular the voluntary offset market) is considered by many to be highly risky, in part because of the lack of generally accepted measurement criteria for certain types of offsets. Offset "validation" in particular is not necessarily well suited to an IAASB pronouncement, e.g., the suitability of criteria can often be questionable because they are quite subjective and technical from an engineering/scientific perspective.

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<sup>36</sup> International Auditing Practice Statement 1010, "Consideration of Environmental Matters in the Audit of Financial Statements."

<sup>37</sup> [www.iasb.org/NR/rdonlyres/6939C5DC-D4A4-4033-A42F-E2243892B8B7/0/0711on04b.pdf](http://www.iasb.org/NR/rdonlyres/6939C5DC-D4A4-4033-A42F-E2243892B8B7/0/0711on04b.pdf)

There would likely be support, however, for these areas to be covered by separate projects should IAASB resources allow.

*Financial statement effects*

- J.16 A noted in paragraph A.12, an IAASB pronouncement on emissions inventories is likely to be of considerable assistance to financial statement auditors when they are considering the carrying value of an entity's emission trading rights. A further project or pronouncement on disclosure of the financial statement effects of emissions is not considered necessary at this stage.

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