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**CORPORATE SUSTAINABLE MANAGEMENT AND ENVIRONMENTAL MANAGEMENT ACCOUNTING**

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The following address was presented at the ‘Sustainability and Environmental Management Accounting Forum’, International Symposium on Corporate Sustainability Management, Bangkok, Thailand, 24-25 November 2005 and is closely related to IFAC’s guideline on Environmental Management Accounting (the second publication noted below).

**Background to the address**

IFAC has produced several publications relating to the environment and sustainability. In March 1998 IFAC produced Study 6 “Environmental Management in Organizations — The Role of the Management Accountant”. The Study discusses the role of management accountants in corporate environmental management and the relevance of their expertise in furthering the corporate sustainable development agenda.

In August 2005 IFAC published an international guidance document with the goal of reducing some of the international confusion by providing a general framework and set of definitions for EMA that is fairly comprehensive and as consistent as possible with other existing, widely used environmental accounting frameworks with which EMA must coexist.

Finally, a consultation paper was produced by IFAC in February 2006 entitled “Assurance Aspects of G3 - The Global Reporting Initiative's 2006 Draft Sustainability Reporting Guidelines.” This consultation paper explores the assurance aspects of the Global Reporting Initiative's
(GRI's) new Sustainability Reporting Guidelines (G3). The paper seeks to stimulate interest among professional accountants in the GRI’s proposed new reporting guidelines - especially those aspects related to assurance reporting; encourage accountants to review and provide comments to the GRI; gauge whether G3 would be suitable as criteria for assurance engagements; and provide the International Auditing and Assurance Standards Board with feedback on the application of its International Standard on Assurance Engagements 3000 to sustainability reporting.

Introduction

Ladies and gentlemen, thank you for inviting me to address you today.

I am sure that for many of you the idea of the International Federation of Accountants (IFAC) being involved in Environmental issues is a stretch of your imagination. As the global organizations for the accountancy profession, with 163 member bodies in 120 countries around the world, IFAC firmly believes that sustainability matters have an enormously wide application and are of critical interest to all those who consider the wider issues of the future of our planet. Certainly accountants can play a role in making corporations and governments sensitive to the environmental results of their actions.

The Players

IFAC’s specific interest in the work of Dr Deborah Savage of the Environmental Management Accounting Research & Information Center (EMARIC), Massachusetts, USA and Dr Christine Jasch of Austrian Institute for Environmental Management & Economics, Vienna, Austria came to our attention through the efforts of Mr. Tarcisio Alvarez-Rivero of the Division for Sustainable Development of the United Nations Department of Economic and Social Affairs (DSD/UNDESA), who first communicated the idea for a guidebook to IFAC and has helped the authors develop the proposal and coordinate international funding for the project.

The US Environmental Protection Agency (Ms. Kristin Pierre) and the UK Environment Agency (Mr. Howard Pearce) contributed to the preliminary phases of document development by providing funding for development of the project proposal and for a preliminary EMA literature review, respectively. Funders of the effort to write and review the guidance document itself include DSD/UNDESA, the UK Environment Agency (Mr. Howard Pearce), the Japan Ministry of Environment (Mr. Kenji Sawami), the Austrian Ministry for Transport, Innovation and Technology (Mr. Hans-Guenther Schwarz), and the German Federal Ministry for Education and Research (Mr. Alex Grablowitz).

Why IFAC?

Environmental issues – along with the related costs, revenues and benefits – are of increasing concern to many countries around the world. But there is a growing consensus that conventional accounting practices simply do not provide adequate information for environmental management purposes. To fill in the gap, the emerging field of Environmental Management Accounting (EMA) has been receiving increasing attention. In the early 1990s, The US Environmental Protection Agency was the first national agency to set up a formal program to promote the adoption of EMA. Since that time, organizations in 30+ countries have begun promoting and
implementing EMA for many different types of environment-related management initiatives

The International Federation of Accountants (IFAC) decided to commission a guidance document to bring together some of the best existing information on EMA and, at the same time, to update it and add to it as necessary. This document is neither a standard with defined requirements, nor a descriptive practitioner or research report. It is not intended to be a standard that IFAC Member Bodies are expected to follow or adopt as part of their responsibilities under IFAC’s Statement of Membership Obligations (SMOs). It is intended to be a guidance document that falls into the middle ground between regulatory requirements, standards and pure information. As such, its goal is to reduce some of the international confusion on this important topic by providing a general framework and set of definitions for EMA that is fairly comprehensive and as consistent as possible with other existing, widely used environmental accounting frameworks with which EMA must coexist.

**The Content**

The guidance covers a variety of topics:

- EMA definitions, uses, benefits and challenges;
- Physical accounting of EMA;
- Monetary accounting of EMA;
- Examples of EMA applications for internal management; and
- Examples of EMA applications and links related to other types of accounting and external reporting initiatives.

Environmental Management Accounting has no single, universally accepted definition.

According to IFAC’s Statement *Management Accounting Concepts*, EMA is “the management of environmental and economic performance through the development and implementation of appropriate environment-related accounting systems and practices. While this may include reporting and auditing in some companies, environmental management accounting typically involves life-cycle costing, full-cost accounting, benefits assessment, and strategic planning for environmental management.”

A complementary definition is given by the United Nations Expert Working Group on EMA, which more distinctively highlights both the physical and monetary sides of EMA. This definition was developed by international consensus of the group members, representing 30+ nations. According to the UN group: EMA is broadly defined to be the identification, collection, analysis and use of two types of information for internal decision making:

- physical information on the use, flows and destinies of energy, water and materials (including wastes) and
- monetary information on environment-related costs, earnings and savings.

These two definitions highlight the broad types of information organizations typically consider under EMA, as well as some common EMA data analysis techniques and uses.

**The Content**

In the time available I can only highlight the types of information that is currently gathered and that information that the guidance suggests might become regularly monitored in the future.
Most of the schemes developed internationally include the types of costs that are clearly driven by efforts to control or prevent waste and emissions that can damage environmental or human health. Examples include: costs incurred to prevent the generation of waste/emissions; costs to control or treat waste once it has been generated; and costs for remediation of polluted sites. These types of costs are often referred to as environmental protection expenditures, or EPEs.

Environment-related costs under EMA include not only EPEs, but also other important monetary information needed to cost-effectively manage environmental performance. One important example is the purchase cost of materials that eventually become waste or emissions. Another recent development in the area of EMA is a push to view the purchase costs of all natural resources (energy, water, materials) as environment related. In a manufacturing setting, where most of the purchased materials are converted into physical products, this would allow more cost-effective management of the materials-related environmental impacts of those products.

Of course, organizations do consider materials purchase costs in their internal management decision making, but do not necessarily view them as environment related. These costs can, however, be viewed as environment related, because an organization must have this information to fully assess the financial aspects of the environmental management related to both physical waste and physical products. The physical accounting side of EMA provides the needed information on the amounts and flows of energy, water, materials and wastes to assess these purchase costs.

EPIs can be calculated at many different levels – for the organization as a whole, for specific products or product lines, for specific material groups, etc., depending on the intended use of the information. For example, a local community might be most interested in wastewater generation rates for a facility as a whole, while internal managers would also be interested in wastewater generation rates for specific process lines in order to make process improvements.

**Physical Materials Accounting**

Materials Inputs are any energy, water or other materials that enter an organization. Outputs are any products, wastes or other materials that leave an organization. Any Output that is not a Product Output is by definition a Non-Product Output (NPO). In organizations that use energy and materials but do not manufacture physical products, such as transport or other service sector companies, all energy, water and other materials used will eventually leave as Non-Product Output, by definition.

The following categories describe each type of Input and Output

**Materials Inputs**
- Raw and Auxiliary Materials
- Packaging Materials
- Merchandise
- Operating Materials
- Water
- Energy

**Product Outputs**
- Products (including Packaging)
- By-products (including Packaging)

**Non-Product Outputs (Waste and Emissions)**
- Solid Waste
- Hazardous Waste
- Wastewater
- Air Emissions
As used here, the terms Inputs and Outputs do not include capital items such as equipment, buildings, land, etc. Some of these items also become waste eventually, but are normally not monitored via material balances or materials flow accounting, as they do not enter or exit the organization with the same frequency or volume as other physical materials, and are not typically tracked in the same information systems. Organizations that consider the physical materials embedded in capital items to be significant with respect to environmental impacts at some point in the item’s life-cycle (such as resource extractions impacts or final waste disposal impacts) may wish to track those capital items for environmental management purposes separately from other physical materials.

Monetary Accounting

Similar to the physical information collected under EMA, monetary data can be collected for an organization as a whole, or for particular sites, input materials, waste streams, process or equipment lines, product or service lines, depending on the intended use of the information (for example, investment appraisal, assessment of total annual costs or budgeting). Some organizations may wish to extend the system boundaries beyond their own operations to include monetary information from suppliers, customers and other elements of the supply chain, with Supply Chain Environmental Management in mind, or the product/service life cycle, with Lifecycle Assessment and Costing in mind.

Next are the key cost categories:

1. Materials Costs of Product Outputs
   Includes the *purchase costs* of natural resources such as water and other materials that are converted into products, by-products and packaging.

2. Materials Costs of Non-Product Outputs
   Includes the *purchase (and sometimes processing) costs* of energy, water and other materials that become Non-Product Output (Waste and Emissions).

3. Waste and Emission Control Costs
   Includes costs for: *handling, treatment and disposal* of Waste and Emissions; *remediation and compensation* costs related to environmental damage; and any control-related *regulatory compliance* costs.

4. Prevention and Other Environmental Management Costs
   Includes the costs of *preventive environmental management activities* such as cleaner production projects. Also includes costs for *other environmental management activities* such as environmental planning and systems, environmental measurement, environmental communication and any other relevant activities.

5. Research and Development Costs
   Includes the costs for *Research and Development* projects related to environmental issues.

6. Less Tangible Costs
   Includes both *internal and external costs* related to less tangible issues. Examples include *liability, future regulations, productivity, company image, stakeholder relations and externalities*.

Examples

One of the major benefits of the guidance material is the extensive list of examples that are included in Chapters 5 and 6. While time does not permit me to discuss the details I recommend you look at the
examples covering many situations and from many countries. A few of the more interesting examples include:

- Extracting EMA Data from Enterprise Resource Planning – Austria
- Materials Flow Cost Accounting – Germany
- Materials Flow Cost Accounting – Japan
- EMA for Logistics Management – UK and the Netherlands
- Fujitsu’s “Cost Green Index” - Japan

- EMA for New Product Development – Argentina

The full text of the IFAC guidance booklet is available free of charge from the IFAC web site. You can find it at http://www.ifac.org/store

Thank you very much indeed for your attention.

SUSTAINABILITY AND THE NEW ZEALAND INSTITUTE OF CHARTERED ACCOUNTANTS REVISED STATEMENTS OF LEARNING OUTCOMES

Ray Skinner, Co-convenor of the Sustainability Working Group, New Zealand Institute of Chartered Accountants.

Introduction

This article provides a brief overview of the review of Statements of Learning Outcomes (SLOs) carried out by the New Zealand Institute of Chartered Accountants (the Institute) in early 2006 as part of the review of the academic admission requirements of the College of Chartered Accountants.

It also reflects on the submission made by the Committee of the Sustainability Working Group (a volunteer special interest group) and encourages academics and their tertiary institutions to provide additional focus on ‘sustainability’ in their teaching.

The Sustainability Working Group, attached to the Institute, operates nationally and is a special interest group of volunteers.

As a precursor to post-university professional papers and practical experience requirements, the Institute requires a bachelor level degree of four years equivalent full-time study. These degree-level requirements are outlined in the SLOs.

Statements of Learning Outcomes

The SLOs provide guidelines for the minimum requirements in terms of knowledge and skills that students should be able to demonstrate after completing a course or courses on a topic required in the academic component of the admission policy. The compulsory topics reflected in the ten SLOs are: