Green Accounting in Indonesia: Accountability and Environmental Issues*)

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Abstract

The objective of the paper is to explore the growing concern of environmental issues in the Indonesian accounting discipline. The concern is based on the research finding of implementing EAPs (environmental accounting practices). It is argued that the green accounting in Indonesia is necessary for organisation's accountability function and should be a key component in the corporate strategic process. Such a stance requires an appropriate approach in defining what is environment related to accounting aspects on decision making usefulness, accountability and relevance of information to users in the broader contexts.

Introduction

There has been an increasing recognition that the ecology of the planet is threatened by human activities. These phenomena have to be taken into account that a danger is surrounding us. One solution is that every people should take more attentions into the environment. A new awareness developed recently, when customer questioning not just the quality of product, but also how the process during manufacture bring effects to the environment. This community known as green-consumers, which also consist many level of persons included investors and creditors of corporations is also questioning them. On one side corporate business institutions related to the environment effects should respond to these matters, that they have an obligation to maintain their environment as it is. One of some ways is by producing a "corporate environmental report" in which it can help them preserve the environment and increase the company's economics performance as well.

Respectively to the environment phenomena, there has been also much debate in the recent literature of business and accounting about the accountants' role in managing the environment. Rogers and Kristof (2003), Young and Guenther (2003) and Milne (2003) have made contributions to the environmental accounting debates and discussions. Unfortunately, only few of environmental accounting literature published in Indonesia is concerning these such importance. It is acknowledged that the importance of the debates and discussions encourage accountants to be proactive in providing relevant information to users outside the minimum disclosure requirements of regulation, and in the reporting of potential (environmental) contingent liabilities and obligations. It is argued that orthodox notions of accountability are over-simplified and limited, it is indicated that accounting technologies can be adjusted in order to face that environmental information that is shown to be a social, political, and economic. With this, this study attempts to see the environment as an opportunity, providing an insightful and persuasive mechanism that has the capacity to encourage accountants to report the complexity of environmental information which in some way it should be treated as such in financial report.

The purpose of this study is, firstly, to introduce to academicians knowing the growing concern of the environment in the accounting discipline. The concern is based on the research finding of implementing EAPs (environmental accounting practices). From this point a view of accounting change is regarded an autonomous activity, and that accounting is a relevant technology is creating visibility of different aspects of the company. On the other hand, it has been argued that accounting is not an autonomous activity, that accounting can not be understood if it is detached from its social and organizational context, somehow to study it outside of its context leads to wrong conclusions. Secondly, the study is to introduce more to business interest that it is not too late for Indonesia community to apply high standard of quality to the environment. The accounting involving in environmental reporting will give new focus in traditional accounting field, while those old folks thought accounting is just debit and credit. This new development will also improve the point of view of financial report user, that they will get wider information's according to achieve the reliability and accountability of financial statement including the environmental impacts to the company and how the companies manage it.

The Impact Of Governmental Regulations To Corporate Responsibilities In Indonesia

A Business Interest in Environmental Performance

In his 1992 texts, Green Reporting, David Owen (1992) states:

> "The past couple of years have seen green issue, or....a concern with the future of the planet, intrude into the public consciousness and subsequently the political agenda in a big way. It is also becoming increasingly apparent that ever growing trends in green awareness, evidence by legislative development together with mounting influence of environmental pressure groups, the rise of green consumerism and the first stirrings of green investment movement, have tremendous financial implications for business. Indeed, as environmental legislation becomes ever stricter its impact on corporate financial statements, and hence the accounting function, become ever more clear".

Owen's statement implies that the green movement poses types of financial challenge for business. Not only do businesses have to comply with a whole host of environmental regulations and law, but they must also assure their stakeholder that they are environmentally friendly. This assurance to stakeholder mandates that corporations communicate their environmental activities. One of fewest costly, but more effective, means of such communication may be the annual report, or in even specialized in environmental annual report.

A pragmatic reason for environmental concern on the part of some business is that certain sectors of industry depend on a clean environment, for example where clean air or clean water is an essential part of production. Such industries seek to benefit from cleaner environment. What is not clear, however, is whether the firm involved will necessarily view their purchasing or production consequences in the same way.

The Industrial Development Concerning Global Environmental Issue

Several worries grow up in many developing countries according to environmental standard used by western/rich economics countries as an excuse to build new trade barriers such eco-labelling, anti-tropical timber campaign,

ISO 14000, etc., which limited the market access for Indonesia' export commodities, if Indonesian government and business parties do not show their respectively efforts to develop or to adapt advance technology for more clean production process in industries.

Principally, there are three main basic problems need to be considered in developing those industries, i.e. :

→ Waste minimization needs technology, it also means that the company need new instrument which logically bring consequence increasing production cost.

→ Generally, business parties still hold on old economics principles that is minimizing cost to reach highest profits. This orientation more sound to classic business ethic that should to be built from their basic way of thinking.

→ Most of new industrial countries including Indonesia, environmental preservation awareness culture has not grown up very well, especially its corporate responsibility to maintain or create better environment.

Strategies of Clean Industrial Development.

"End of Pipe / EOP" Approach

This approach emphasize on how to manage wastes occurred as the effect of industrial activities mostly to encourage them to not to pollute the environment. In several occasions the end of pipe method contains many disadvantages like explained below :

(1) Pengolahan limbah cair, padat atau gas memiliki resiko pindahnya polutan dari suatu media ke media lain, dimana dapat menimbulkan masalah lingkungan yang sama gawatnya, atau berakhir sebagai sumber pencemaran secara tidak langsung pada media yang sama.

(2) Walaupun tidak setinggi biaya remediasi kerusakan lingkungan, pengolahan limbah memerlukan biaya tambahan pada proses produksi, sehingga biaya per satuan naik. Hal ini juga menyebabkan para pengusaha enggan mengoperasikan peralatan pengolahan limbah yang mereka miliki.

(3) Pendekatan pengendalian pencemaran memerlukan berbagi perangkat peraturan, selain menuntut tersedianya biaya dan sumber daya manusia yang handal dalam jumalh yang besar dan memadai untuk melaksanakan pemantauan, pengawasan dan penegakan hukum. Lemahnya kontrol sosial, terbatasnya sarana dan prasarana, serta kurangnya jumlah dan kemampuan tenaga pengawas menyebabkan hukum tidak bisa ditegakkan.

(4) Pengembangan teknologi pengolahan limbah tidak mendorong upaya ke arah pengurangan limbah pada sumbernya serta kurang menjanjikan pemanfaatan limbah lebih jauh.

(e) Teknologi retrofit dapat gagal berfungsi atau sangat berfluktuasi dalam efisiensinya. Aliran efluen yang telah diolah juga masih mungkin mengandung residu (Djajadiningrat, 1996:7).

"Clean Technology Process / CTP" Approach.

Ideally, every industries activity should try to prevent pollution before it occurred. But if it actually happened, the best way can be efforted by disappearing the main problems, not solving those symptoms by "end of pipe" approach which oftenly bring high cost without touch the core problems.

Prevention concept or waste minimization on resources usage can be implemented through *clean technology* or *low and no-waste technology* that is now to be the foundation of *Clean Production Programme*. This concept is more superior in managing pollution control compare with "end of pipe" approach that some of the disadvantages have been explained above.

The words "clean product" was introduced to capture new approach in production problems that cover production process, product life cycle, and consumption pattern that maintain the possibility to fulfill the basic human need without disturbing or damaging environment as a place of development activities. Clean product can be also meant as operational approach towards production system development and consumption based on prevention approach to environmental preservation.

There are two important matters that should be perceived in prevention approach:

(1) Environmental effect from processing, product life cycle, and economics activities can be minimize by decreasing material flow of those activities, which also meant that prevention concept is not just applied at the end of production line but be implemented entirely through raw material inspection, fluid process, production process, finished goods until the usage of product that was made to increase efficiency.

(2) Several types of chemical composed can be very toxic and hazardous to the environment so it needs to be thought further to search for environmentally friendly chemical substitute composition to that stuff.

4R Management

To increase efficiency process, product and consumption pattern related with energy using and raw materials are the first key to operate clean production concept. These operational steps have a close connection with waste minimization efforts.

In production processing, the efforts to increase efficiency like maintain good house-keeping, for example: preventing from leaks, spoils and arranging better raw material / inventory management. Another effort can be held by changing certain manufacture equipment with more sophisticated/ advance technology that faster, better, less pollution and less energy consumption, where the whole idea can make those changing elements cheaper than to install waste treatment device to control pollution.

As a guidance to material, goods or green product that pollution free and environmentally friendly, some experts arrange new method called "4R Management" :

1) Reduce or retrenchment, which raise the questions whether goods or services can reduce and make water & energy resources more efficient. As conservation steps to natural / crude oil and coals can decrease that fossil energy usage and at the same time reduce the hazardous of acid-rain, smog pollution and global green house effects.
2) Replace, implies to the strategy that seek for substitution / alternate product which more environmentally friendly and support the sustainable development programme. Such as making the replacement substance of CFC or chlorofluorocarbon to HCF or hydrochlorofluor that minimize risk of damaging ozone layer.
3) Recycling, giving the consumer support to choose many kinds of recyclable product, as the usage of recycle paper, aluminum, machine oil, glasses, car battery (accu) or recycle former product as a raw material to another product.
4) Reuse, supporting for the condition to re-use former product without change its original performance. Like the reuse of bottle, container, etc (Damanik, 1992: 46)

Green Consumerism

There is a new phenomena developing in some western societies like Germany, England, America, Japan and other countries which is called "green consumerism". This movement developed as the implementation of society / consumers consciousness to their growing worse environment that needs concrete solutions. They demand on goods and services that do not support

occurs the damage to the environment during production process, packaging, and after usage product.

Recently, we can not discuss environmental matter without connoting them with economics issue, this new consumer behaviour seems could not be followed by low income people. This due to the reason that the company whose their environmentally friendly product sell to the market used to input their environmental cost to production cost in which logically raise raise the price and they burden it to consumer' shoulder. According to previous research, cheap price is still the most attractive focus to the consumer, added by their low quality of knowledge to certain chemical composition that give seriously bad effect to the environment, make the whole thing complicated. For example, there are many company still used borax and many forbidden chemical stuff in food production, if the consumer know about it the wouldn't buy it, but the fact is the company still run and produce those thing because the market still receive it.

Actually the consumer has strong and strategic position in these matter as "market decision maker". Their purchase capability would become a great voice that has to be listened, so the products development in market are decided by the consumer whether they would buy it or reject and the worse boicot it, like it already happened in many western countries.

It should be admitted that in Indonesia, "green consumer movement" still remains new. Our society still put a very little attention about it, but it could be understood, cause generally environmentally friendly are more expensive than the rest. And in my opinion government should has certain policies to the company whose their product are not taking environmentally damages, would receive discount or incentives in taxation. At the other side who knows it can reduce production cost and makes their products cheaper also easy to achieve by the common people.

Corporate Environmental Responsibilities

a. Environmental Responsibility

The phrase "environmental responsibility" has different meaning to different people. For some, it means complying with laws and regulations relating to pollution, waste disposal, and other environmentally issue. For others, environmental responsibility means striving toward sustainable development.

Sustainable development refers to an environmental state that exists when the present inhabitants of the earth are able to satisfy their needs without compromising the ability of future generations to meet their needs (Cairncross, 1992: 26). Between economists and environmentalist have different perception on how to attain sustainable development. Some believe sustainable development can occur only if the stock of natural resources (for example; trees, water and wildlife) does not decline. Other believe that sustainable development requirement can be met even though the earth' natural assets are changed into buildings, highways, and other physical assets.

Regardless of their philosophy, companies can undertake many environmentally responsible activities. Those activities could include :

- Reusing parts, supplies, and so forth;
- Recycling;
- Eliminating or reducing pollution:
- Manufacturing products that are recyclable;
- Reducing unnecessary packaging;
- Reducing energy consumption;
- Manufacturing energy efficient product;
- Manufacturing product with longer lives;
- Manufacturing products that are easy to repair;
- Reclaiming products from consumers (Roth and Keller, 1997:51)

These activities can be considered by most companies regardless of their philosophy.

b. The Connection between Quality and Environmental Responsibility

The company also needs to recognize many of high-quality processes that are consistent with environmental responsibility, which are:

CHARATERISTICS OF HIGH-QUALITY PROCESS

- Output satisfied process customer
- Output meets specification limits
- There is low variability in process activities
- There is minimal or no unnecessary waste
- Necessary waste and scrap are reuse or recycled
- Operations are energy efficient

Adapted from (Roth and Keller, 1997:52)

All characteristic mentioned above appear to be compatible with environmental responsibility. When output meets customers' need, fewer products are repairs and returns in resources and energy savings. When processes are more energy efficient and less wasteful, they are more compatible with the natural environment. But difficulties come although many aspects of quality are compatible with environmental responsibility, a company's performance usually is measured in terms of profits. Therefore, companies will be motivated to undertake environmental projects and manufacture environmentally friendly product if the project and product impact on profit favourably. Most US companies presently have recognized that higher quality results in higher profits. There are two reasons. The First is higher quality results in less scrap and lower rework costs, leading to higher profits. The second is higher quality results in a larger market share with corresponding higher profits. When quality improvements result in less waste and lower energy usage, one would expect profits to increase. A study of the quality practices at global metallurgical, inc., a Malcolm Bardrige National Quality Award Winner, confirms this expectation:

> "...Globe has virtually eliminated out-of-specification shipments. Improved consistency of manufacturing operations has increased production and reduce energy consumption, a big cost saving for Globe. As a result of quality improvement and waste reduction, Globe cut costs by $ 17 Millions-or 15% of sales revenue-

from 1986 to 1990. And the company expects $ 4 Millions in saving this year" (Gore, 1992: 342).

Activities such as minimizing waste, improving quality, conserving energy, recycling and adhering to pollution control laws and regulations are necessary. Company that want to be environmentally responsible can adopt these practices, but societal and investor attitudes probably have to change before company operations fully support sustainable development

c. Waste Management.

Business and industries realized that the movement of green consumerism, pro-nature and other ecological consumers behaviour can impact their business activities. But still they assume that the applications of gas filter air pollution in factory chimney-shaft, waste treatment for solid and liquid pollutant are considered as capital burden and extravagant to business community. Efforts to recycled wastes elements, waste deposit and pollutant even other strategies have been taken to manage environment reservation, it seems too complex and harm the business progress. However beyond those fearness, some valuable advantages await for them. In other countries it have been proven that the companies which have special attention to environmental issue and preservation are able to compensate destructive effects of ecological terror. So that they can prepare new strategies to protect consumers, customers and society. Several footsteps seems developed into interesting environmental issue and grew in recent business global society. Anticipating this new wave, some efforts are needed to develop new technology devices in production process to the industries which have clean-predicate and pro-environmental. This movement should be followed by modification and recycle of manufacture product as well. Some experts explained that fundamental solution which can effectively works is by implementing preventive strategy. Basically, this strategy emphasize in efficiency, cutting operational cost and relatively pollution free. The application of industrial waste treatment in early process of manufacture find that 15 until 20 times cheaper than managed it at the end of production. Meanwhile, waste management in storage locations would cost 20 until 50 times more expensive than handle those waste in source. So, to get advantage from this preventive strategy, the industries must requestioning their quality of productions mechanism

and manufacture process with the involvement of waste management Several targets of preventive strategy of waste management:

1. Prioritas yang mempersoalkan kembali apakah berbagai produk sisa, residu limbah dan jenis polutan yang ada bisa dimanfaatkan kembali (reformulation). Hal ini dis%rtai catatan, jauh lebih efisien dan ekonomis untuk memproses atau melakukan proses ulang limbah dibanding upaya untuk penyimpanannya.
2. Prioritas yang dapat membuat limbah dari sebuah proses dipergunakan kembali untuk merangsang kegiatan lainnya (redesign). Semprotan gas, uap dan asap yang diketahui menjadi sumber polusi di alam, misalnya, dikoleksi kembali untuk memproduksi daya listrik, sistem pendingin atau pemanas.
3. Prioritas yang mengubah beberapa proses baku dengan langkah adaptasi dan penyempurnaan terus menerus (remodification). Strategi ini pada gilirannya akan menampilkan jenis peralatan yang irit energi fosil, hemat sumber air dan pelrut industri, serta efisien dalam pemakaian sumber daya lainnya.
4. Prioritas untuk merombak dan mendaurulangkan limbah buangan yang memangkas jebakan-jebakan material beracun dan tidak berpretensi merusak alam (recovery). Atau, dengan menghasilkan jenis barang dan produk akhir yang dihancurkan secara alami maupun karena pengaruh cuaca, atau dengan aktivitas kelompok organisme pengurai (decomposer) (Damanik, 1993: 25).

So it seems clearer that four management above are not just giving financial profit, but it more focusing on how to form behaviour and business trick of corporation and industrial interest in maintaining targets to: protect consumer, customer and society from the threats of pollution. At the same time doubled the profit of efficiency, resist the consumption pattern and improve production technique which could damage natural potency and environmental existence.

Corporate strategies in order to face with global environmental issue.

Fahey and Narayanan (1986) stated:

"The environmental that is relevant for business and their managers consists distinct segment : Social, Economic, Political and Technology The environment consists of an almost unlimited amount of information.

including fact, trend issue and ideas. Each of these segments represent s a focused area of information, a portion of which is important and relevant to the business" (Fahey and Narayanan, 1986: 28-29).

According to them, external environment divided into four different but interlaced segments which oftenly called as macro environment. Social responsiveness strategy was constructed by firstly collecting all possible information and putting them in framework of environmental information which has a function as an input source related to any external matters occur outside the company. Several steps need to be taken are doing environmental analysis that its process consist : environmental scanning, environmental monitoring, environmental forecasting and assessment.

> "*Scanning* mencakup pengamatan terhadap semua pangsa untuk mendapatkan atau menemukan perubahan-perubahan yang sedang berlangsung dan mengidentifikasikan isyarat-isyarat tentang kemungkinaan perubahan di masa depan. *Monitoring* menyangkut penjajakan atau penginderaan terhadap peristiwa-peristiwa yang terjadi, juga terhadap arus kegiatan yang terjadi. Melalui monitoring diharapkan dapat dibedakan isyarat yang palsu atau menyesatkan dengan isyarat yang benar. *Forecasting* me.yangkut upaya mencari tahu hal-hal yang diperkirakan akan terjadi di masa depan. Forecasting dilakukan pada dua jalur, yaitu jalur tentang hal-hal yang masuk kategori *expected* dan jalur tentang hal-hal yang masuk kategori *unexpected.* Akhirnya, *scanning*, *monitoring* dan *forecasting* menghasilkan informasi yang kemudian dinilai dan ditafsirkan untuk dapat menentukan berapa jauh *trend* yang dibutuhkan itu dan perkembangannya berpotensi untuk mempengaruhi dan berdampak bagi perusahaan bersangkutan" (Adnanputra, 1993: 16).

Environmental Analysis-through any processes and strategies-all are aim to one fundamental opinion that environmental is changing. Its changing movement become a keyword. For all those reasons the company need to develop environmental strategies to they can work in parallel with its effort to make profits, and it can be identified further , below :

Eco-efficiency

Eco-efficiency is concerned with increasing or maintaining output value with reduce inputs of resources and costs. It is necessary business centered rather than environment-centered. Eco-efficiency can be seen in such concern and efforts as :

1. Conservation, producing more with less raw material and energy.
2. Waste elimination and pollution prevention.
3. Recycling.
4. Sources reduction.
5. Technological improvements.
6. Environmental protection (Stone, 1995: 97)

Eco-efficiency has a definition i.e. business management that is aim to increase economical and ecological efficiency which focused on minimizing the usage of raw material, water, energy and environmental effect per unit product in manufacturing process. Actually, waste is unusable raw material at the end of production process and casted out (useless & thrown away). Reducing any part of outcasted raw material will minimize the quantity of waste and decrease the risks of damaging the environmental. The usage less water and energy per unit product will also minimize the environmental damages. Decreasing outcasted raw material lead to bigger part of raw material used at the of production process. It means increasing production efficiency. If efficiency raised, logically it would reduce cost of manufacture per unit product. In this way eco-efficiency diminished environmental damages and cost of production at the same time.

Eco-efficiency is increasingly being seen as in harmony with main-stream (growth-oriented) economic through, western capitalism, free market economic system. It may challenge our creativity and management skills, but not our basic assumptions, values, life style, and prevailing modes of business. Eco-justice challenge all of these things.

Eco-Justice

Eco-justice is environment-centered and life-centered, not business centered. Eco-justice is concerned with :

1. Inter-generational equity (holding the scale of economy consistent with the regenerative and assimilative capacities of global life support system).
2. Intra-generational equity (redistribution of throughput and wealth to alleviate poverty).
3. Protecting the biosphere ; preserving natural, social and cultural capital (earth stewardess) (Stone, 1995: 97).

It also mean that economic activity relative to carry the capacity of the biosphere. It is concern with the distribution of benefits and costs of economic activity related with industrial production process. Eco-justice questions what get produced, when, and for whom, together with maximizing reduction or even elimination of production of certain goods and services, which threaten the environment. Eco-justice has a wider scope that needs fundamental social change supported by continuos improvement in eco-efficiency toward sustainable development.

Eco-management

The demand of more environmentally friendly product in international market today, really challenge managers/entrepreneur to get more aware to environmental issue. In fact, sooner or later the demand itself should be put into integral part of company strategy. And there will be a time when the corporate should receive ecology as cost of production factor. In globalization terminology this strategy is more favourable if it is applied in long term strategy than in short or in middle term.

There are several reasons why the managers should take should take responsibility steps to operate ecological principles in their corporate management. According to Winter in his book, *Eco-management : The Elmwood Guide to Ecological Auditing and Sustainable Business*, stated :

(1) Keberlangsungan Hidup Manusia,
Tanpa kesadaran perusahaan berwawasan ekologi, kita tidak dapat mencapai kesadaran ekologi tanpa suatu kesadaran ekonomi berwawasan ekologis, keberlangsungan hidup manusia berada dalam bahaya.
(2) Konsensus Umum,

Tanpa kesadaran perusahaan berwawasan ekologi, tidak akan ada kesepakatan dengan masyarakat bisnis, tanpa kesepakatan semacam itu, ekonomi pasar akan berada pada bahaya politik.

(3) Peluang Pasar,Tanpa kesadaran manajemen yang berwawasan ekologi, akan ada peluang pasar yang hilang secara cepat.

(4) Pengurangan Resiko
Tanpa kesadaran manajemen yang berwawasan ekologi, perussahaan menghadapi kecenderungan kerusakan lingkungan, secara potensial sejumlah uang dan personel seperti direktur, eksekutif, dan anggota staf lainnya.

(5) Pengurangan Biaya,
Tanpa kesadaran manajemen yang berwawasan ekologi akan ada banyak peluang pengurangan biaya yang hilang.

(6) Integritas Personal,
Tanpa kesadaran manajemen yang berwawasan ekologi, baik manajemen maupun karyawan yang lain akan merasa berkurang integritasnya dan tidak dapat secara penuh mengidentifikasikan jabatan mereka (Bisnis Indonesia, 1995: VI)

This six reasons above are foundations of eco-management paradigma. The eco-management has an aim to minimize the effect of corporate existence to environment and social, at the same time managing the whole operations consider / aware ecological factors. Making the company behaviour walks to that direction, it needed the changing in the way of thinking and new point of view for the managers, that is from expansions to conservation; from quantity to quality; from domination to partnership.

It is important for company in their strategies management involving an eco-manager has new directions in ecology.

ISO 14000

The management system today would not survive alone without covering the environmental impact that has direct influence in market demand or consumer, who pursue a product that will not harm the environment (environmentally friendly) and being processed efficiently to avoid the damage of the environment (eco-efficient). Moreover, it is become global issue which has important impacts to business interest including in Indonesia that has trouble with industrial wastes. The bigger quantity of waste produced, more efficient production process run, because waste is raw material or energy that are not properly processed.

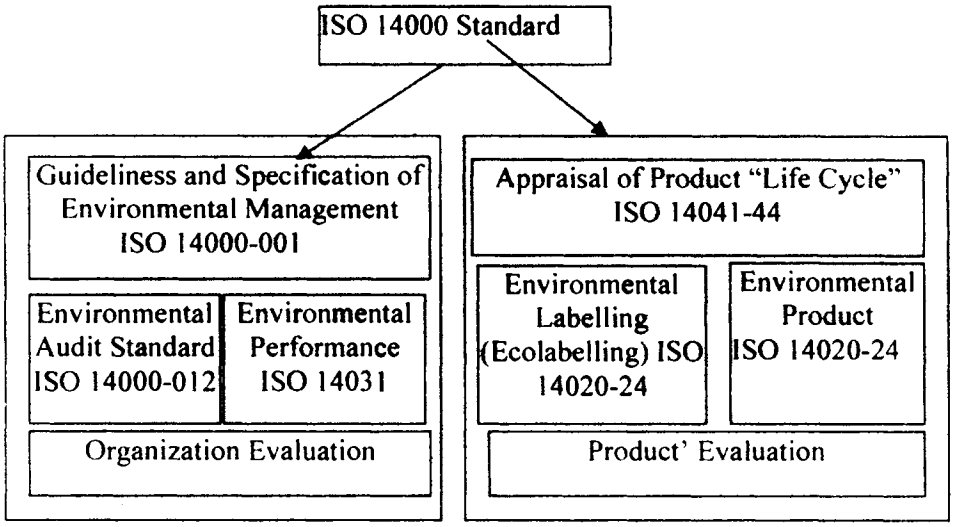
Further the waste itself will create / increase social cost as a consequence of pollution on environment damages.

Regarding to all that matters an ISO (International Standard Organization) which it headquarters in Geneva, in 1993 formed a Technical Committee called TC207, which has a special assignment to develop a series of international environmental management standard known as ISO 14000. The basic thinking that become a fundamental aspect of ISO 14000 is to support the elements of environmental management system that can be combined effectively with other management requirement. Helping the company to achieve its economic target with improving environmental performance. In term of exports and imports, it is as knowledge that Indonesia suffers in two respects. On one hand accepting "dirty product" makes its a "pollution haven" for develop countries, but on the other hand the products it exports to the clean havens of developed countries must be clean and environmentally friendly.

In anticipation of such problems, Indonesia should evaluate international marketing strategies through national and international negotiation, in order to strengthen its bargaining position in international trade under ISO 14000.

ISO 14000 is not intend to non-tariff barrier or change the law reinforcement need to obey. Next, ISO 14000 can be applied to all types in organizations scale. In order to reach the objectives and environmental targets, so ideally this concept should be supported by the used of the best pollution control technology available.

TC 207 developed standards that applied in ISO 14000, it covered : environmental management system, environmental auditing, eco-labelling, environmental performance evaluations, life cycle analysis, term and definitions (Jebarus, 1996: 68).



Source : Power (1995: 30-32)

The application of ISO 14000 is aim to achieve better environmental performance through the application of environmental management system effectively supported by certification system, in other word this ISO 14000 totally integrated environment responsibility and everyday activity of corporate management.

This certificate potentially will increase competitive advantages to the company which run the EMS (Environmental Management System). In this context, the certificate could be considered as incentive system to EMS performer and facilitated trading activities, interlaced with global issues according to environmentally friendly product, ecoefficiency, green consumers which become unseperated part of commencing the consciousness of environmental quality and pursue to fulfill with the safety standard of product to the environment.

Environmental Management System (EMS)

An environmental management system emphasizes prevention of adverse environmental effects rather than detection and repairment after pollution happened. Toward this end, the system should make it easier for an

organization's environmental policies and objectives to comply with applicable laws and regulations.

> "Many organization have conducted environmental 'review' or 'audit' to assess their environmental performance, but these reviews and audits can not assure an organization its performance meets and will continue to meet legislative and policy requirement. To be effective, environmental audits need to be conducted within a structured management system, be integrated with overall management activity, and address all aspects of desire environmental performance" (Wilits, 1994: 43)

The focus of an EMS is prevention of environmental damages. According to British Standard-7750, "Specification for Environmental Management System", stated that an EMS should :

1. Identify an assess the environmental effect arising from the organization's existing or purposed activities, product or services;
2. Identify an assess of environmental effects arising from incidents, accident and potential emergencies situation;
3. Identify the relevant regulatory requirements;
4. Enable prioties to be identified and pertinent objectives and target to be set;
5. Facilitate planning, control, and monitoring, auditing and review activities to ensure the policy is complied with, and that it remains relevant;
6. Be capable of evolution to suit changing circumstance (British Standard, 1992: 9)

The implementations of EMS itself seemly covers all parties of business and to meets these objectives will require a team effort because expertise in a variety of disciplines is needed. This team should include senior management; members of the legal, finance, and accounting departments; personnel department staff who are involved with employee training; and managers from the organization's various functional, process, and activity departments. Activities would included safety, planning, research and development, marketing, product and process design, packaging, facilities and operations.

There's a wide opportunity for accountants to involve in implementing EMS in their company, and some ways they can encourage the firm to meet those objectives.

For example, the "environmental effects " mentioned in objectives No.1&2 can be broadly constued as twofold: (1) The effect on air, water, or soil quality and general human health and safety of the organization's activities, and (2) The economic impact on the organization in effect No.1 Accountant can help assess the latter. Objective No.4 refers to prioritizing environmental objectives, which is unreasonable to do without the costs and benefits of alternatives. Accounting should be part of the team that is involved in this process. In addition, the control, monitoring, and auditing activities refereed to in objective No.5 are logical point for accountants to become involved in EMS implementation (Wilits and Guintini, 1994: 44).

According to an interview with James L. Dixon, secretary of ISO/TC207, explained "other benefits of installing an EMS beside companies can avoid future environmental problems, they can reduce cost of production. He told that when he visited one of environmental in Singapore, "there is a big company testified that they can save US$ 41 Million annually by following EMS standard. He also emphasized the importance of EMS implementation in developing country like Indonesia that the Industry should look after and develop the environment. Why ? Because Indonesia should protect water, rivers, air to maintain health, preserve the environment and the sustainable of natural resources for next generations".

Eco-labelling

In recent climate of liberalization, Indonesia will save a greater amount of imported goods and services, competing with domestic products. Therefore, the quality of product demanding by domestic and overseas consumers have changed. Meanwhile, export regulations for the product from Indonesia and other developing countries will shortly require "green labelling". This means that international consumers demands for international product has growing more complex.

Ecolabelling encourages develop and developing nations to complete and to produced goods and services which are environmentally friendly. Problems will arise for those firm who can not comply, since foreign consumer are more critical and place greater emphasis on environmental protection. Especially when

we want to export our product to European regions, ecolabelling have been used as a standard of environmentally product. Ecolabel is a mark or logo in a product which explained that the product has a minimum impact to the environment or had fulfill the requirement needed for environmental protection. Ecolabel has an aim to preserve the environment through developing consumer consciousness of producent behaviour and effects of various product to the environment.

Although ecolabel mainly directed to reach environmental objectives, there's possibilities that some difficulties could bring effect of international trading to a number of developing which might be thought that ecolabelling is a new version of *nontariff barrier*. Several logical reasons can be exposed further :

(a) Ecobelling cenderung lebih memperhatikan kebijakan lingkungan dan tehnologi di negara pengimport.
(b) Terdapat beberapa perbedaan mengenai 'infrastructure' lingkungan dari berbagai negara.
(c) Input-input yang diperlukan dalam rangka menghasilkan output penyandang 'label hijau' ini mungkin sulit dicari oleh perusahaan asing (Purnawan, 1995: 105)

In 1995 approximately 20 programs of Ecolabelling have been constructed by 16 countries. Draft of nations and name of ecolabelling programme are ; *Ecomark* (Japan, India, and South Korea), *Environmental Choice* (Canada, New Zealand, Australia, Sweden), *Green Mark* (Taiwan), *Green Label* (Israel, S)ngapore), *Austrian Ecolabel* (Austria), *Green Seal, SCS, and Smart Wood* (three of them from America), *Blue Angel* (Germany), *NF-Environmental* (France), *Stiching Meliukeur* (Netherland), *European Flower* (EU) and *Environmentally Friendly* (Kroasia and the rest of the world) (Saidi, 1995: 83)

With simple interpretation, it can be said that the impact of ecolabelling in Indonesia is : we will sell in lower quantity with lower price because we have 'under standard' products, if we could not meet with the environmental standard of product applied in imported countries. The difference of standard using among those countries make ecolabelling bias and unclear, compare with *tariff barrier* that has its specific measurement in quantifying.

Looking through the development of ecolabelling trend in many countries, it seems impossible for Indonesia' industry and business interest to ignore such matters. In a long term, international trading community will demanding ecolabel as a new international standard of quality and the implementation of ISO 14000 is hard to be avoided.

Life Cycle Analysis and Assessment (LCA)

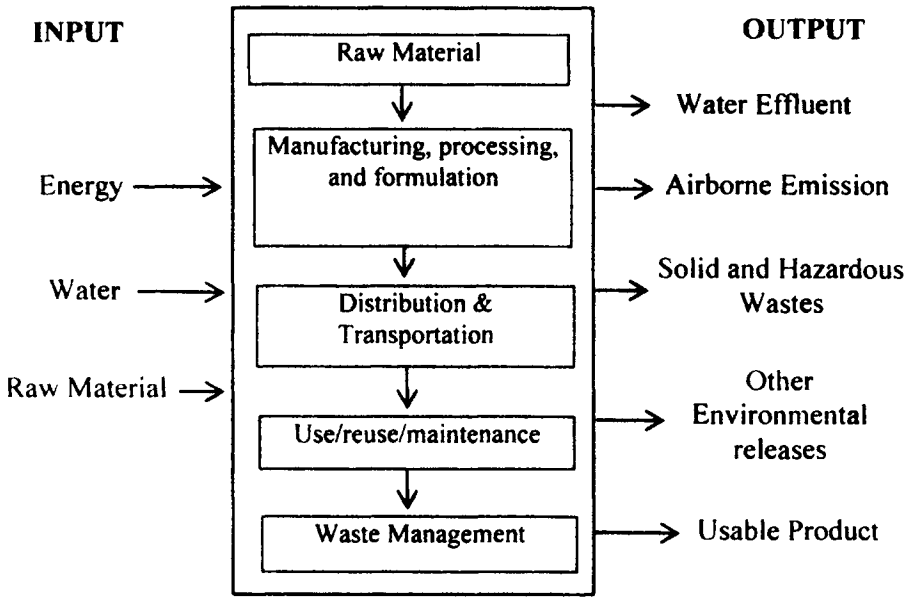
Ecolabelling concept emphasized the company to know further some effects of product to the environment and at the same time measuring the ecological effects at every phase of its life; production process, consumption and after usage treatment. So that the ecological concept would covers wider field i.e. life-cycle analysis.

It was explained by Rob Gray (1993: 165) that;

> LCA is an objectives process used to evaluate the environmental burdens associated with a product, process or activity. This is accomplished by identifying and quantifying energy and material usage and environmental releases. The data are then used to assess the impact of those energy and material releases to the environment, and to evaluate and implement opportunities to achieve environmental improvement. The LCA includes the entire lifecycle of product, process or activity, encompassing extracting and processing of raw material; manufacturing, transportation and distribution; use/ re-use /maintenance; recycling; final disposal.

This approach also known as "*from Cradle to Grave*" which is used to measured the environment impact occurred from input usage until waste disposal in every line production process and various consumption, i.e. since design of product was made, manufacture process, industry waste treatment system until on how the consumer consumpt the output. It can be imagined to get certification of "ecolabelling" (ISO 14000) in the future, the companies (mainly located near the natural resources) must fight not only manage / process the wastes (before it sent back to environment), but smartly greening every chain of production since the beginning (the cradle) until the end of product (the grave).

An overview of LCA analysis : a simplified framework.



Adapted from Rob Gray (1993: 169)

USES OF LIFE CYCLE ANALYSIS

Information to external parties

- shareholder, reimpact of their investment;
- consumers to assess product;
- pressure regarding a product's aand organization's environment impact;
- policy maker concerning environmental impact of product;
- other interested parties, for example : ethical investor, eco-label, regulatory bodies, eco-audit regulatory bodies.

Informations for external parties

- Establish comprehensive baseline information on product's overall resources, reqqquirement and emission;
- help determine priorities for environmental care action;
- provide managers with information to set target and measure; environmental-related performance;
- guide product development;
- provide a basis for advertising claims and public relations exercises;
- BS 7750;
- as part of the supplier audit process;
- aid in the selection of the best practical environmental operation (BPEO)

Adapted from SETAC A Technical framework for Life Cycle Analysis (1991)

Source : Gray (1993: 174)

Environmental Auditing (Eco-Audit)

Since the concept of sustainable development was introduced as a new paradigma in economics towarding 21st century, environmental matters are not taken as external factor anymore but as internalization of production process. It means, during manufacture activity there is a pollution comes out and become an environmental responsibility to related company or industry.

Eco-audit can be considered as corporate management instrument to manage manufacturing activities in order to avoid environmental problems internally and externally of company area. Many industrial process are inevitably polluting and leave their specific signature on the environment. Agriculture leave pesticide residues in ground-water, electroplating produces air emission of chromium, paint factories discharge cadmium-contaminated wastewater. State-of-the-art control devices are never 100 percent efficient, and so these industries and others leave their characteristic pollution on air, land, and water (Steiner and Steiner, 1994: 427)

The launching of environmental auditing was stimulated occurring the chemical pollution disaster in just last decade, the leak of Methyl Isolyanate at a Union Carbide pesticide plant in Bhopal, India, 1994, killing 4,037 people; the release of radionuclides by a mismanaged Russia reactor with a mature fuel supply at Chernobyl in USSR, killing thirty-one people in 1986; and the release of 250,000 gallons of crude oil from grounding of the *Exxon Valdez* in 1989 illustrate catasthrope failures of industrial process to contains pollutants. Yet pollution from such dramatic incident is insignificant compares to the cumulative emissions from ongoing, routine business activity (Readman, et al. 1992: 662).

Regarding to avoid such of terrible disaster occur in the future, the eco-audit program was developed to fulfill the requirement of corporate environmental standard. The confederation of British Industry (CBI) (1989) defines 'environmental audit' as :

> ... the systematic examination of the interactions between any business operations and its surrounding. This includes all emission to air; land and water; legal constraint; the effects on the neighboring community; landscape and ecology; and the public's perception of the operation company in the local area...Environmental audit does not stop at compliance with legislation. Nor is it a 'green-washing' public relations...Rather it is a total strategic approach to the organization activities.

The environmental audit was adopted by Indonesia government through the regulation stated in Kepmen KLH No.42/1994 that arrange the audit operational. This adoption directed as an efforts to face validity of international environmental standard in ISO 14000.

Major Element in an Environmental Audit or Review

- identity the most important of the organization's environmental interactions;
- assess the degree of environmental impact;
- learn about how to deal with and reduce or improve the organization's impact;
- identifying a priority list of interactions to be dealt with this will develop, in part, from the first two and in part in response to actual and potential changes in law and society's attitude;
- establish standards and policies;
- identify responsibilities;
- train staff;
- change practices and put policies into action;
- develop environmental information systems;
- monitor performance and performance appraisal;
- assess performance against standard;
- reappraise this list, starting from the top, on systematic and continuing basis.

Adpated from Gray (1993: 88)

The consequences of several weaknesses in law enforcement concerning environmental law, supported by uncommonly eco-audit programme among industrial society, we become a witness of many pollution and industries which put their environmental obligations at the bottom list of priorities. But if the liberalization system and free trading era take place and many foreign environmental auditor would come to Indonesia , there will be a big possibility a lot of industries find themselves in great difficulties occurring penalty.

In sustainable development, there is a motto : "*Produce more , with less resources, with less energy and with less waste*". Entering to new millennium, tariff barrier would disappear and the world would become global market. Besides from consumers perspective, environmental audit sooner or later would be anew demand in trading market. We have to prepare it earlier and socialized the eco-audit toward clean industry in order to increase competitive advantage of our product against global market.

It seems the implementation of ISO 14000 would have no longer reason to be ignored, to get certification of ISO 14000, the corporate should role several identifications procedure to environmental aspects related with every activities that have significant influence to the environment. The corporate should record target and objectives to environment matters and try to perform commitment in pollution prevention programme . The companies also have to train their employees who its job has a direct negative impact to the environment. Moreover, the companies should create/run the audit system to confirm that the programme have been implemented perfectly.

The Implication of Environmental Accounting And Accountant Role Concerning Global Environmental Issue

It is continuing on broader aspect of corporate responsibility that have been explained in previous discussions. Especially in facing how the environmental impact should be treated in good manner of corporate activity.

The study is based on belief that accounting can be a "change driver". In other word, every movement of company affected financially, need accounting to measure and record these activities including in environmental matters. The accounting has an obligation to measure and report environmental performance, this is intended to promote "better' environmental behaviour within the different centers of the company.

The creation of an environmental accounting system follows a doubled objectives. On one hand, it seek to more make company's environmental activity visible and understandable to all employee. On the other hand, it is used for negotiation with company's social and institutional environment. this is to emphasized that the company needs to communicate its interest in reducing its negative environmental impact. Corporate responsibility to the environment should include accounting as comprehend step, since environmental aspect are difficult to translate to an economic language understood by the entire company.

The Definition of Environmental Accounting

Focusing on financial measurement of environmental impact including natural resources, can not be measured financially or numerically with ease. Rob Gray (1993: 13) has perception that can be developed as environmental accounting, i.e. :

* Recognizing and seeking to mitigate the negative environmental effects of conventional accounting practice;
* Separately identifying environmentally related cost and revenues within the conventional accounting system;
* Taking active steps to set up initiatives in order to ameliorate existing environmental effects of conventional accounting practice;
* Devising new form of financial and non-financial accounting systems, information system and control systems to encourage more environmentally benign management decisions;
* Developing new forms of performance measurement, reporting and appraisal for both internal and external purposes;
* Identifying, examining and seeking to rectify area in which conventional (financial) criteria are in conflict;
* Experimenting with ways in which sustainability may be assessed and incorporated into organizational orthodoxy (Gray, et al, 1993: 13)

Environmental accounting is a method for improving business decision making in recognition of the increasing environmental challenges and opportunities facing business today. It does this by identifying hidden or misallocated internal and external environmental costs and allocating them to particular products or processes. Environmental accounting provides firms with truer costs of their products and processes, thus leading to better business decisions and sustained profitability.

Environmental accounting will also serve as a solid foundation for an environmental management system (EMS), or increase the effectiveness of an existing one. In addition, having an environmental accounting system in place allows firms to:

- Better manage environmental costs
- Better formulate business strategies
- More accurately cost products and processes
- Discover new opportunities to offset or minimize environmental costs through environmental thinking and
- Include potential environmental costs in appraisal processes and investment analyses

The Scope of Environmental Accounting

Environmental accounting is an important function that provides firms with a means to incorporate information with business decision making and business operations. Environmental accounting will cover :

- accounting for contingent liabilities / risks;
- accounting for assets revaluation and capital projections;
- cost analysis in key area such as energy, waste and environmental protection;
- investment appraisal to include environmental factors;
- development of new accounting and information systems;
- assessing the cost and benefit of environmental improvement programs;
- developing accounting techniques which express assets and liabilities and cost in ecological (non-financial) terms (Gray, et al, 1993: 6).

This paper will only explore few subject of environmental accounting's scope related to the aim of presenting "corporate environmental report' disclosure.

The Benefits of Environmental Accounting

There are many benefits from environmental accounting, some of which are easier to measure than others. For example, the benefits associated with uncovering hidden costs are easier to measure than the benefits to a firm from having an environmentally sound public image. All benefits, however, contribute to improving a firm's profitability in both the short term and the long term (sustainability). By implementing environmental accounting the company will:

* Better discern opportunities to minimize compliance costs and reduce operating costs;
* Reduce costs through energy and resource conservation;
* Aid strategic decision making regarding continuing or abandoning a particular product or process;
* Gain a competitive advantage by minimizing environmental impacts through improved design of products, packages and processes, and
* Help to ensure your company meets compliance and due diligence requirements.

Accountants and Environmental Issues

Most of traditional accounting text books refer to accounting as the language of business. As a consequence, with business assuming a greater responsibility for environmental management it would seem logical to involve accountants. Accountants are encourage to see the environment not as a threat but as an opportunity.

Lickiss (1991: 6), called for accountant to place more emphasis on accounting for human and nature assets, stressing that good environmental practice would also be good business practice. He suggested four part of strategy for accountants to involve in :

(1) encouragement of firms to develop and report on innovative environmental policies.
(2) research into environmental audit and measurement issue;
(3) a review of the adequacy of current practice in estimating contingent liabilities;
(4) recognition of opportunities to advise on legal and taxation implications.

The accountants' role in supporting quality and environmental responsibility activities depend on the attitude adopted by the company. Accountant can help by using their expertise to modify and change the planning and control system to support quality and environmental improvement efforts. Accountants may need to change their practices in area of capital investment analysis, standard cost, performance measure , and disclosures.

* In capital investment area, accountant can help managers by including quality and environmental benefits in the analysis. If a proposed project is more efficient or produces less pollution than an alternative, those factors should be included in the analysis. The financial data should be included any cost saving resulting from lower energy usage. If the company must control pollution, the financial impact should be recognized. Although pollution that is not regulated may not represent a cost to the company, the pollution is still a cost to society. Pollution that can not be evaluated using dollars can be included in the analysis as a qualitative factor.
* Also, accountant may help companies become environmentally responsible by revising standard cost included an allowance for waste or inefficiency is present in the process, standard cost should exclude any waste allowance.

This practice would encourage the reporting of the cost of waste as a variance.

* In addition to variance for waste, other performance measures could be developed for quality and environmental items. Many quality measures have been reported in some literature. Environmental measures could include such items as energy usage, waste reduction, and water pollution.
* In the reporting function, accountant can encourage their companies to disclose environmental matters in annual report. Full disclosure of environmental and quality data would provide customers, creditors, and stockholders with a more comprehensive evaluation on the company's performance (Roth and Keller, 1997: 54-55)

The calls for proactive on the past of an accounting profession in facing environmental issue, was conditioned and constrained by market expectation. This opinion based o their abilities to derive financial values and develop information systems. Also, accountant have wider abilities such as independence of mind, intelligence, evaluative ability, the capability of being logical and systematic and they have experience in communication. But encourage accounting profession alone will not enough if they don't related to other bodies of expertise such as science, otherwise the challenge to built better environment would become lipservice only.

Accounting for Energy Management

Relating environmental issue with energy are complex and substantial. Energy may be derive from non-renewable (coal, oil, gas, nuclear, geothermal) or renewable (wood, wind, sea ,solar, hydro) source. Every energy source used by the company has its own impact financially and to the environment. For example, CO_2 is the principal 'greenhouse' gas contributing to global warming. Some report said about 70% the principal contributor to acid rain are SO_x and No_x, which are usually comes from electricity generation, manufacturing and heating processes and road transport. Based on this fact, such a high proportion should be of concern given to preserve the environment better and financial saving to be made. Accounting for energy can be built by involving accountant to contribute the development of organization' environmental sensitivity. Several steps illustrated below may be would give clearer understanding for accounting role in energy saving.

Initial steps in accounting for energy cost

- Codes within the chart of account for each source of fuel.
- Separate posting of energy invoice to account for oil (different sorts as appropiate), petroleoum, diesel, electricity, mains gas, bottled gas , coal, tec.
- A means of assessing direct usage for recharging processes, through product cost, ABC (Activity Based Costing), site costs or whatever the oranization's cost allocation basis is.
- A means of realistically allocasting 'non-traceable' costs to the cause of their creation.
- The usual holding to account of activity etc. centre management.
- A means of presenting trends in energy cost within cost reports, budgets and other control and performance information.
- Some consideration of intra-organizational transfers of energy (e.g. recycled heat) and wheter the effort in accounting for this and recharging it is beneficial (in environmental and/or financial terms) as a result of potential charges in behaviour.
- Cost summary and other reporta should be able to identify major users of which fuels (this then becomes the target area for senior management and the investment programme)
- In so far as the accountants are involved in investment appraisal and capital budgeting some means must be established to ensure that energy

Adapted from Gray, et al (1993: 119)

Leading the company to attempt reduction in energy usage will not be achieved

by involving without the interfere of management to support energy efficiency systems through the manufacture. The company could invite their engineer to develop / adapt in this mission, such as by implementing energy saving technologies, in building design, in computer-controlled energy monitoring systems, etc.-which are now available to industry.

Otherwise, the efficiency application would lead to something useless. Accounting for only the financial implication does not place the organization in a position to forecast changes in fuel costs and assess their impact. The company should realize that energy cost will rise substantially and can only

be limited by reducing usage that leads to reduce cost consistently. But declines in energy cost may arise through changes in the nature of business, through changes in production processes, switching to more efficiently alternative energy supply or reductions in per unit cost of energy.

That's why the involvement of those new environmentally technology was unavoided. Restructuring the energy usage expect more innovative developments in accounting for energy to reduce environmental impact, at the same time leads to better eco-efficiency manner adopted by the company.

Accounting for Waste Management

Mostly the companies use to apply reactive approach in managing their waste. It is Included the implementation of 'end of pipe' technology that becomes out of date compare with the demand of recent ecological improvement. Especially when it was connected with financial matters, eco-efficiency can be used to minimize the waste in order to reduce financial burden.

Several reasons below was guided by Department of Trade and Industry, UK, to support the initiate of waste minimization;

Reduce :

- Production costs;
- on-site waste monitoring and treatment cost;
- handling, transport and off-site disposal costs;
- raw material costs;
- energy and water costs;
- long-term environmental liability and insurance costs;
- the risk of spill and accident;

and *improve* :

* Income through the sale of reusable waste;
* overall operating efficiency;
* the safety of employees;
* the company image in the eyes of shareholders, employees and the community (Gray, et al, 1993: 130)

Rob Gray also introduced three main approaches for accounting for waste:

(1) Recognized the total actual and potential costs of waste management on a company, activity or site basis and adjusts policy accordingly, plus tight application of cost-control as central element of the organizational culture.
(2) Employs non-financial accounting as its driver and establishes a recording and communicating information system that captures physical quantities of waste.
(3) Monitoring water quality coming off sites and extended to all from of waste. From this, the company devised a comprehensive waste accounting system which charged all waste management cost (cost arising from disposal, insurance gaining consents, emergency procedures, spillages, etc.) back to the line management.

As the same matters involve in handling for energy, to bring the company toward waste minimization needs every line of management to collaborate together achieving eco-efficiency and environmental sustainability

Some steps in accounting for waste

* Separate all waste management and disposal cost to identifiable cost headings.
* Expand the obvious to take account of other waste-related matters-e.g. spillages, emergency and contingency facilitates, insurance, etc.
* Develop a non financial accounting system that tracks all wastes on to and off the sites.
* Related the costs to the organization's waste or environmental director and charge back the cost to the process creating the waste.
* Take advice from facilities, waste or environmental director and charge back the cost to the process creating the waste.
* Develop ABC thinking, If not a system, to refine and develop this process.
* Introduce the items to the lines of budget-center budgets.
* Recognized the strategic and investment implication.
* Ensure that all forecast take special notice of the rapidly changing 'terms

Adapted from Gray, et al (1993: 136)

The accountant's have to find the way to meet the objectives of cost minimization along with reducing waste quantity and minimizing waste's effects. This needs both quantity and financial units to be accounted for.

Accounting for Environmental Liabilities

The terms of 'environmental liabilities' mean that the company has an obligation to maintain the environment from waste of company's production activities. Since clean-up (remediation) cost put huge financial demands on commercial businesses from small company to large enterprises, accountants has responsibility to estimate the extent of environmental liabilities.

At the other side, pressures from state laws and regulations may result in a number of financial risks that accountants must consider. One such risk is the possibility a company will be required to commit substantial funds to comply with environmental laws and regulations. For example, a manufacturing facility is required to install or upgrade devices to remove particulate matter from smokestack emissions or to remove chemical or heavy metals from liquid or solid waste before disposal. The resulting, capital expenditure will increase production cost, which can not be fully passed on to customer and will lead to a decline in future earning.

Ignoring such of environmental liabilities / obligation can significantly affect a company's financial position and its long-term financial health. That's why they should be reflected in financial report. Current financial reporting, however, is inadequate because the extent of these liabilities has not been anticipated.

a. The advantages of environmental liabilities' information.

Disclosure by companies of their environmental liabilities would benefit all parties making business and economic decisions. According to Williams and Philips Jr. (1994: 31), in their article "Cleaning Up Our Act; Accounting for Environmental Liabilities" there are some reasons that have been concluded:

First, investors want and need to protect themselves against liabilities and unexpected surprises-including potential environmental liabilities.
Second, business would profit from more complete disclosure of environmental liabilities if it led to more proactive approach that would protect them from the escalating costs of delay in addressing clean-up issue. If corporations were required to consider such liabilities, they could improve their planning and decision making regarding the measurement of compliance with company policy and governmental regulations.

Third, sticker accounting guidelines would help management's attention any existing problems and the full extent of the cost involves. A number of major American corporations report that taking proactive, quality management approach to environmental issue not only saves money in the long run by reducing pollution clean-up cost, but it also produces immediate and sometimes dramatic savings in their production costs.
Fourth, creditors also have a vested interest in more complete and timely disclosure of environmental liabilities because they share in potential liability under certain laws and can be held responsible if they have loans secured by contaminated properties.
Fifth, banks and lending agencies thus need more complete disclosure of environmental liabilities to assess their exposure and evaluate credit risks.
Sixth, the general public must be included as a fourth party that would benefit from more disclosure, for any action that damages the environmental affect everyone to some degree. The concept is that a corporation's 'contract with society entail an accounting to a wider circle constituents than just their shareholders, lenders, or funding entities".
Finally, the accounting profession needs more protection. Auditors need to assure that financial statements reflect actual and potential liabilities that arise need to be extended to potential liabilities due to possible disaster.

b. The Estimation of Environmental Liabilities

Clean up cost for existing pollution are highly variable because every waste presents different challenges. Potential environmental risks are difficult to assess, are contingent, or can not be quantified.

But FASB (Financial Accounting Standard Board) No.5, *Accounting for Contingencies*, provides accountant with framework for assessing the financial impact of entity's environmental exposure.

Statement No.5 says a loss contingency is "an existing condition, situation, or set of circumstances involving uncertainty as to possible...loss...to an enterprise that will ultimately be resolves when one or more future events occur or fail to occur" (Zuber and Berry, 1995: 45).

Under this FASB No.5, environmental exposure can be reflected in financial statement as follows :

- If before issuance of financial statement it appears probable an environmental exposure has resulted in a liability or an impact asset as of balance sheet date and the amount of loss can be reasonably estimated, the loss is accrued by a change to income and appropriate disclosure is provided. If the loss amount can be measured only as a

range, the best loss estimate is recorded or, if there is no best estimate, the minimum loss is recorded.

- If loss is not accrued because either it is not assessed as probable or there is no reasonable estimate, an environmental exposure still must be discloses in the footnotes to the financial loss has been incurred. That disclosure should describe the environmental exposure, including an estimate, or range of estimate, of the loss (or if there is no reasonable estimate, it should so state) (Zuber and Berry, 1995: 45).

The Emerging Issues Task Force (ETIF) recently provided guidance through issue no.90-8 , *Capitalization of Cost to Treat Environmental Contamination*, reaches a consensus is that when a company incurs costs "to remove, contain, neutralize, or prevent existing or future environmental contamination", the cost should be charged to expense. The costs can be capitalized if recoverable if any one of these criteria is met :

(1) The cost extend the life, increase the capacity, or improve the safety or efficiency of property owned by the company.
(2) The cost mitigate or prevent environmental contamination that has yet to occur and that otherwise may result from future operations of activities. In addition, the costs improve the property compared with its condition when constructed or acquired, if later.
(3) The cost are incurred in preparing for a sale of property that is currently held for sale (Williams and Philips, 1994: 32).

Allowing capitalization of certain contamination prevention costs would be a good start. This guidelines would allow companies to spread environmental expenses and not take a large amount at one time. Companies could manage better because the expense incurred today would lower cost tomorrow by minimizing the potential for environmental disaster.

Estimating those costs must also consider some relative important variable involved in recognizing and measuring environmental remediation liabilities. The key factors are:

* Complexity of site
* Number of Potentially Responsible Parties (PRPs) at site
* Financial viability of other PRPs
* Number of regulatory agencies
* Changing regulatory standard
* Evolving remediation technologies
* Insurance coverage .

* Existence and quality of recording amount and types of waste distributed
* Materiality of waste contributed (Summa and Vondra, 1992: 52)

Dealing with potential devastating financial impact of environmental liabilities, requires every line of management. Including accountants and environmental auditors to take a proactive approach.

It can be started by estimating such liabilities into account. Then reported separately which allow their benefits to be measured, enabling investors to see more clearly what company is doing to prevent pollution and conserve natural resources.

Conclusions

In understanding the motives of providing environmental information using contemporary literature, it is argued that the green accounting in Indonesia is necessary for organisation's accountability function and should be a key component in the corporate strategic process. Such a stance requires an appropriate approach in defining what is environment related to accounting aspects on decision making usefulness, accountability and relevance of information to users in the broader contexts. Often this information is already available within organizations but it is deemed relevant only for 'management' purposes. It is argued that the information about such critical obligations should be made available for public consideration to meet accountability objectives relevant to the implication of fairness in accounting reports. Because green accounting is an accountability issue, it is believed that therefore there is a place for this information in published financial and non financial statements.

The call for green accounting and auditing in Indonesia has come through substantively into the accounting literature. A particular concern emerged within academia to encourage the accounting profession to develop a meaningful respose to the environment challenge. It is agued that organizations in Indonesia have to change their traditional view seeing their environment as an asset to be preserved and reported regularly.

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