



# An introduction to Green Accounting

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*"Prosperity consists in our ability to flourish as human beings - within the ecological limits of a finite planet. The challenge for our society is to create the conditions under which this is possible."* **Tim Jackson**

## The Perspective

As the 21st Century continues to be an age of progress and prosperity, more and more emphasis is being laid on nature and the Environment that surrounds us. In the last few years, there has been a growing awareness of the need to discover the art of living in harmony with nature. It is also realized that the environment is not a permanent asset. Rapid industrialization, in spite of its positive effect on economic development has very seriously threatened the world's natural environmental balance. There is a growing pressure from environmentalists, government, society, customers, employees, and competitors on business firms to be environmentally accountable. Proper balancing of economic development and environment protection is gradually being recognized by all concerned. Green accounting is considered one of the important management systems to enable improvement of economic and environmental performance of a business firm.

Green accounting is a type of accounting that attempts to factor environmental costs into the financial results of operations. Green accounting measures the impact of human activity on the earth's ecological systems and resources and not just the financial effects of such activity. The origins of the accountancy profession in the 19th Century were within the context of the age of empire and boundless economic expansion. The latter part of the 20th Century brought an awareness of environmental limits to economic activity and has led to a proliferation of accounting methodologies designed to measure the impact of human activity on the earth's ecological systems and resources. Such methodologies can be collectively described as green accounting. It is also called resource accounting or integrated accounting.

Green accounting is an inclusive field of accounting. It provides reports for both internal use, generating environmental information to help make management decisions on pricing, controlling overhead and capital budgeting, and external use, disclosing environmental information of interest to the public and to the financial community. Environmental accounting is also a subject of interest for business, both as a way to assess impacts-costs and benefits of projects-and to define new accounting standards to assess their long term performance and risks.

## Green Accounting - Meaning and history

The term Environmental accounting was used for the first

time in the year 1980s by Professor Peter Wood. Environmental accounting or green accounting is a new branch of accounting that aims at accounting for the Environment and its well-being. Although it is a completely new field/branch of study and practice; it's soon gaining relevance because of its importance. In addition to merely checking a Company's profit or loss or its revenue and expenses environmental or green accounting is a growing field that focuses or provides for accounting the environmental impact, certain factors may cause to a business or organization. The adoption of Green accounting depicts the commitment an enterprise/organization has towards the environment. It deals with 3 most important factors people, profitability and the planet and also more or less deals with the costs and the advantages or benefits an environment brings to a business concern.

In simple words, Green accounting, also called environmental accounting is a trend concept that incorporates the environmental assets and resources into the corporate accounts. Environmental accounting is an attempt to broaden the scope of the accounting frameworks used to assess economic performance, to take stock of elements that are not recorded in public or private accounting books. These gaps occur because the various costs of using nature are not captured, being considered, in many cases, as externalities that can be forwarded to others or postponed. In addition to traditional accounting of "hard" costs such as material, labor or energy, green accounting tries to incorporate "soft" elements such as pollution costs, social impacts and the savings from new technology. The "soft" costs can be challenging, but not impossible for accountants to quantify.

## Need of Green Accounting

With increasing social focus on the environment, accounting fills an expectation role, to measure environmental performance. The status of environmental awareness provides a dynamic for business reporting its environmental performance. The business firm's strategy includes responding to capital and operating costs of pollution control equipment. This is caused by increasing public concerns over environmental issues. Green accounting is a management tool for the better consideration of environmental costs. It helps to know whether corporation has been discharging its responsibilities towards environment or not. Basically, a company has to fulfill various environmental responsibilities viz. Meeting regulatory requirements or exceeding that expectation. Cleaning up pollution that already exists and properly disposing of hazardous material. Disclosing to the investors both potential & current, the

amount and nature of the preventative Measures taken by the management.

### How is Green Accounting Superior to Conventional Accounting System?

Conventional accounting does not take into consideration a lot of factors like environmental expenditure or expenditure incurred to prevent pollution. It does not study the cause and effect relationship that an environmental incident may cause to a business or organization. Conventional accounting does not study or measure the exhaustion of environmental resources or take into consideration the degradation of the environment. Green accounting demonstrates organizations' commitment to the most important aspects of the 'triple bottom line': people, planet and profitability.

### Scope of Green Accounting

The scope of Green Accounting is very wide. It includes corporate level, national & international level. The following aspects are included in.

- 1) From Internal Point of view investment made by the corporate sector for minimization of losses to environment. It includes investment made into the environment saving equipment devices.
- 2) From External point of view certain environmental negatives are indirectly due to business operation activities. It mainly includes: a) Degradation and destruction like soil erosion, loss of bio diversity, air pollution, water pollution, noise pollution, problem of solid waste, coastal and marine pollution. b) Depletion of non-renewable natural resources i.e. loss due to over exploitation of non renewable natural resources like minerals, water, gas, etc.

### Approaches to Green accounting

Green accounting or Environmental Management Accounting (EMA) means integration of business strategy with sustainability strategy by accounting for financial and non-financial information of a company. EMA is defined as the generation, analysis and use of financial and relevant non-financial information, to support the management. EMA integrates corporate environmental and business policies. EMA typically involves life-cycle costing, benefits assessment, and strategic planning for environmental management. EMA directly places a cost on every environmental aspect, and determines the cost of all types of related actions. Environmental actions include pollution prevention, environmental design and environmental management. Environmental costs comprise both internal and external costs and relate to all costs relevant to environmental damage and protection.

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

As per IFAC (2005) to achieve environment and economic performance cost-categories could be used, which induce environmental-related cost information. The environment cost categories include 1. Materials costs of product outputs 2. Materials costs of non-product outputs 3. Waste and emission control costs 4. Prevention and other environmental management costs 5. Research and development costs 6. Less tangible costs.

### Framework of Environmental Accounting

In the private sector, green accountants may advise clients on the sustainability and environmental impact of their decisions. As resources wane, environmental factors play an increasingly larger role in the bottom line. Green accounting involves estimation of environmental expenditures/cost, capitalization of those environmental expenditures, and identification of environmental liabilities and measurement of environmental liabilities.

**Green Accounting:** A method to measure green growth Green accounting requires the identification and monetary measurement of the traditional private internal costs that directly affect the bottom line of the balance sheet. These are direct costs, such as materials and labor, which are attributed to a product or department and indirect costs, or overheads, such as rent, administration, depreciation, fuel and power. Externalities such as social and economic environmental costs that impact the external environment must also be taken into account. Although often ignored, their inclusion as internal items in corporate accounts could mean that scarce resources are more efficiently allocated.

### Environment management costs

Green accounting identifies costs hidden, ignored, or misallocated by conventional methods.

- A. Decreased use/waste of raw materials and supplies
- B. Decreased use/waste of utilities
- C. Reducing use of non-renewable resources
- D. Reducing regulatory costs.

**Up-Front Costs:** Costs such as green-siting, environmental design, qualifying green suppliers, testing pollution control alternatives are part of the costs of designing and operating processes, systems and facilities. **Voluntary Costs:** There are costs of doing voluntary green costing which affect community relations, insurance, lower remediation costs, and contribute to future sustainability. **Back-End Costs:** There are life cycle costs to closing and decommissioning sites and processes. Life cycle costing allows costs to be defined at specified points in the future of a site or process. For example licensing toxic materials, holding tanks for hazardous substances, clean-up, and pending regulations that will add costs. **Regulatory Costs:** Instead of lumping green costs into overhead, transfer green costs to the process, system or facility incurring the costs. Isolating regulatory costs will receive more management and worker attention.

**Contingent Costs:** These are costs that are expected to happen based on probability estimates of dollar value. For example, accidental release of contaminants, fines and penalties, permits, etc. Identifying them allows management to plan for them. **Image and Relationship Costs:** Some

green costs are incurred to build a better corporate image with customers and communities. These are green image expenses. Reports are done to appeal to green consumers and green investors. Green sites are selected, green award programs are conducted, and there are green contributions (e.g. tree planting) that incur costs. **Green Life Cycle:** The life cycle of a product, process, system or facility begins with acquisition to make it green to the decommissioning which can include toxic removal and remediation. Life cycle is a more systematic and complete assessment of a firm's long term costs. **Green Management Accounting:** uses data about environmental costs and performance for business decisions. It collects cost, production, inventory, and waste cost and performance data in the accounting system to use to plan, evaluate, and control.

**Effective Balance Sheet:** An effective green balance sheet would be either in the red (a loss) or black (profit). However, this would only be after including all internal and external cost categories, such as health problems for workers, emissions and pollution of air, land or water, degradation of the natural environment and depletion of finite resources. Internal and external benefits must also be calculated and quantified using monetary measures. These could include savings from new cleaner technologies resulting in lower pollution and better health, new markets and substitution of raw materials or production processes. Green accounts are a vital part of corporate social responsibility and can help with decision making and triple bottom line profitability. Essentially an organization needs to compare the costs of avoiding or preventing environmental damage against the cost of remedial activities.

**Environmental expenditures/costs:** These are expenses or costs related to environmental measures including production-related costs and product research and development expenditures which are incurred primarily for ensuring protection of environment. Total environmental expenditures can be classified into six categories such as capital investment, operating costs, research and development cost, environment administration and planning, expenditures for remedial measures and recovery measures.

**Environmental liabilities:** Obligation to pay future expenditure to remedy environmental damage that has occurred due to past events, activities or transactions or to compensate a third party that has suffered from damage. It may even include a contingent environmental liability that depends on occurrence or nonoccurrence of one or more future uncertain events or to compensate a third party that has suffered from such damage. Environmental liability may be a quantifiable one or non-quantifiable one. If it is a quantifiable one - that is if we can measure its value accurately, give it in the Balance sheet otherwise give a footnote explaining the nature of such liability.

**Capitalization of Environmental expenditures:** Capitalization of environmental expenditure is justifiable if the cost extends the life, increase the capacity or improve the efficiency or safety of the property owned by the company, the costs mitigate or prevent environmental contamination, the costs improve the property/resource in comparison to

its condition at the time of acquisition, the costs are incurred in connection with preparing the property for sale.

### Steps to incorporating Green accounting.

It has been argued that accountability of environmental policies of a business corporate is the basic requirement for a secure future. Accounting for economic performance, and its environmental impacts, is the first step towards this goal. It, however, is not so easy. For companies that willing to incorporate environmental accounting, here are some suggested steps:

- A company before starting green accounting must clearly define its accounting goals and environmental policies.
- Identify the stakeholders, the relationship that the organizations has with it and also the level of risk involved.
- Identify the environmental factors involved, their mode of measurement, and cost of achieving the goals.
- Identify the resource efficiency and cost saving techniques by encouraging innovative ideas.
- Keep record of how environmental costs decline over time with continuous green accounting.
- A separate account should be opened for environmental expenditures. It will help to measure and report environmental expenditure and environmental performance
- The income statement should include cost and benefits attributable to ecological factors.
- An additional ecological value added statement should be prepared. It should include all operational costs related to environmental management, regulatory costs, revenue generated, cost savings, grants, subsidies received and similar factors.
- Most importantly, accountants must broaden their horizon and establish a dialogue with social and ecological professionals to forge a common acceptable accounting framework.

### The Way Ahead

The environmental green accounting is an emerging aspect of accounting science that will significantly influence operations and decision making in the future. Green accounting is a management tool used for a variety of purposes, such as improving environmental performance, controlling costs, investing in "cleaner" technologies, developing "greener" processes and products and informing decisions related to product mix, product retention, and product pricing. Green accounting must be viewed as a dynamic and ongoing process rather than a onetime activity. The time has come for corporates to prepare a firm environmental policy, take steps for pollution control, comply with the norms and mention adequate details of environmental aspects in their annual report. A well-defined environmental policy, with proper follow-ups and proper accounting, is imperative. Hence, there is a genuine need to develop a concrete guidelines for the Environmental Accounting or Green Accounting.