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## **Environmental Accounting and Reporting in Fossil Fuel Sector : A Study on Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)**

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## Environmental Accounting and Reporting in Fossil Fuel Sector : A Study on Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)

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**Abstract:** Petrobangla is the sole responsible organization to maintain the fossil fuel sector in Bangladesh. It is accountable to next generations for oil, gas and other natural resources. It is necessary to ensure optimum use of these resources. Development activities cannot be sustained if these resources are depleted through wasteful use. This study indicates that Petrobangla takes many initiatives to provide environment-friendly energy in the economy. Environmental Accounting and reporting is the emerging concept in Bangladesh, although many countries in the world, either developed or developing, are practising environmental accounting and reporting in their fossil fuel sector. Since the need for fossil fuel is likely to increase, especially in developing countries [where the supply of these resources insufficient], the accounting and reporting of these resources have become inevitable.

**Keywords:** Environmental Accounting, Fossil Fuel, Environmental Reporting.

### Introduction

Energy, especially fossil fuel (includes oil, natural gas, coal) plays a vital role in modern society, enabling systems that meet human needs such as sustenance, shelter, employment and transportation. Energy is the basic input for all development activities. There is no doubt that some of the current development activities are described as unsustainable activities despite the fact that all development efforts seek higher standards of living. Access to clean energy is essential to poverty alleviation and sustainable development. Energy is both an engine of development and a source of many of the environmental problems. Approximately, 80 percent of the energy used in the world comes from the fossil fuels, which are the main contributors to environmental and health problems at the local, regional and global levels. Air emissions from the combustion of fossil fuels are the primary environmental concern of the energy system. Such emissions include carbon dioxide (CO<sub>2</sub>), nitrogen oxide (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (vocs), particulate matter and mercury. There is an increasing level of interest in environmental protection at all levels. Moreover, it has become known that next generations have the claim on these fossil fuels, i.e., oil, natural gas and coal resources. Since all of these resources are natural assets and non renewable sources of energy

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and it is generally accepted that the environmental impacts from these sectors are significant, so economic valuation, accounting and reporting of these resources and their environmental impacts are very important to ensure sustainable development. With the growing concern for sustainable development, there has come a demand for environmental and resource accounting. In this context Environmental Accounting may play an important role to provide the needed data on environment to different users.

Environmental reporting will ensure the “Corporate Environmental Stewardship” of the company activities. There is no doubt that these sectors have great impact on environment than its economic impacts. The current accounting system of the oil, gas and mineral sectors of Bangladesh does not reflect these natural assets and their environmental impacts. However, it is very important to consider these assets and their environmental impacts in the current accounting system. Otherwise, sustainable development, which is the essence of developed economies, is impossible. A proper environmental accounting system is a supporting measure for achieving sustainable development in the sense that it is the main tool for measurement, control and decision-making (Hamid, 2002). Environmental Accounting supports sustainable development because it does not look only into the past or near future but also it looks into more strategic objectives (next generations).

### **Objectives of the Study**

This study is an attempt to examine the present environmental accounting and reporting practices of Petrobangla and its companies. This study covers the following specific objectives:

- (1) To find out the present environmental protection system of Petrobangla.
- (2) To find out whether the companies of Petrobangla provide in its annual report about environmental information.
- (3) To find out the environmental liability of the fossil fuel sector.
- (4) To find out whether Petrobangla and its companies maintain any provision for environmental liability and environmental cost.
- (5) To find out whether Petrobangla and its companies maintain any approaches of environmental accounting.
- (6) To find out whether Petrobangla and its companies classify environmental expenditures as capital expenditure or operating expenditure.
- (7) To recommend the probable solutions to the problem.

### **Methodology**

Data are collected from both primary and secondary sources. Primary data are collected through interview with responsible environmental officer and accounting officer of the Petrobangla and the secondary data are collected from various books, journals, articles, periodical reports, research papers and annual reports of Petrobangla and its companies.

## **Scope of the Study**

Petrobangla performs jobs of multifarious nature. But the present qualitative study covered only accounting and reporting on environmental aspects of Petrobangla.

## **Accounting Interest in the Environment**

There is no doubt that the fossil fuel sectors have social and environmental impacts which may carry bigger weight than its economic impacts. Accounting has an instrumental role in disclosing environmental responsibility for different entities whether industrial, commercial service and at all levels whether micro, meso and macro. Thus, accounting became concerned with achieving new goals such as measuring and evaluating potential or actual environmental impacts of projects and organizations. These new goals are of great importance as they enable many users to take different development decisions that are economically and environmentally sound. The main reasons of accounting interest in the environment are as follows:

- Many environmental costs can be significantly reduced or eliminated as a result of business decisions, ranging from operational and housekeeping changes, to investment in cleaner production, to redesign of processes/products.
- Environmental costs (and, thus, potential cost savings) may be obscured in overhead accounts or otherwise overlooked.
- Many organizations have discovered that environmental costs can be offset by generating revenues through sale of waste by-products for example.
- Accounting for environmental costs and performance can support an organization's development and operation of an overall Environmental Management System (EMS) and ISO 14000 accreditation.
- Environmental expenditures whether Capital (CAPEX) or Operating costs (OPEX) increase dramatically day after day.
- Management needs financial data about these expenditures.
- For strategic cost leadership (Driving Cost).
- The need to prioritize these expenditures.
- There are increasing needs from different stakeholders (government, investors, lenders, banks, non-governmental organizations ... etc) to have financial data on the environmental performance of different organizations.
- If accounting does not provide financial data on the environmental performance of organizations that will help non-complying organizations/entities to pollute environment and spoil resource and yet appear more economic efficient than other which incur costs to protect the environment.
- Many of the environmental activities are of quantitative and accordingly of financial nature and have a major effect on organizations costs, assets and liabilities.

- Naturally any entity have a main outputs and a secondary outputs of which mainly polluters and thus if the entity does not incur costs to mitigate or prevent it a third party in the society have to bear it (the concept of externality).
- Environmental risks may result in huge environmental liabilities and subsequently the organization/entity may be obliged to outlay large payments which may affect seriously the liquidity and the financial position of the organization.
- Managing resources properly in an environmentally friendly way will result in direct returns such as cost savings and reductions and/or indirect returns such better goodwill and image for the organization.
- Environmentally friendly processes, products, and services result in a competitive advantage for such organizations.
- There is a general trend to evaluate the organizations performance according to its social and environmental effectiveness and not only on its economic effectiveness.
- Current practices demonstrate that, no track for environmental costs was available as it was charged randomly. Therefore, there is a need for proper charging and allocation. Distinguishing between environmental costs and other costs will lead to a proper cost allocation of these costs and thus more precise pricing and will help to develop sustainability indicators.

For the above reasons, it is believed that accounting should be responsible for measuring, evaluating, and disclosure of environmental performance in financial statements or in its attachments. No doubt that measuring environmental performance depends on accounting systems but needs more data, other than the conventional accounting data, such as pollution ratios. Monetizing environmental issues may not be totally accurate but, economists, accountants have to give best estimates according to the current level of knowledge, and techniques used (US Environmental Protection Agency (EPA), 1995 and Hamid, 2002).

## **Literature Review**

### *Accounting Guidelines for Environmental Issues*

Regarding auditing, once environmental risks have been identified, the auditor must check for compliance with accounting standards. Several rules governing environmental disclosures have been developed in recent years. Some of the key accounting pronouncements that regard environmental reporting are the following:

- (1) Statements of Financial Accounting Standards (SFAS) No. 5 states under "Accounting for Contingencies" that a liability should be recognized in the financial statements if a loss is probable and the amount is estimable. If the loss amount is not estimable which is often the case, the contingency must be described in the footnotes to the financial statements.

- (2) FASB Emerging Issues Task Force (ETIF) Issue No. 90-8 required that all environmental contamination costs be expensed as incurred unless costs extend the life or increase capacity of the property, costs mitigate or prevent future environmental contamination (that would otherwise occur), or costs are incurred to prepare a property for sale.
- (3) FASB Emerging Issues Task Force (ETIF) Issue No. 93-5 concluded that an environmental liability must be evaluated independently from any potential claim for recovery. This recovery claim can reduce the liability only if it is probable. Securities Exchange Commission (SEC) standards state that it is appropriate to net the asset and liability if the asset's recovery is recognized as probable. The asset and liability should be disclosed in the notes to the financial statements. The SEC approves discounting of liabilities to their present value. The Management Discussion and Analysis section of the annual report requires "forward looking" disclosures. The SEC in Interpretation No.14 states that registrants must take reasonable steps to identify the minimum end of the loss range with a higher priority on studying sites where a known problem exists. Registrants should assess the probability of an environmental obligation and any insurance recovery independently. Post-remediation monitoring approaches have been developed.
- (4) American Institute of Certified Public Accountants (AICPA) Statement of Position (SOP) 96-1, "Environmental Remediation Liabilities," covers auditing and accounting topics dealing with environmental issues. It details the responsibilities of corporations involved in environmental cleanup, and responsibilities of corporations to avoid environmental destruction. SOP 96-1 is a comprehensive environmental issues guide.

Thousands of sites in the U.S. have been contaminated and directed to be cleaned up by the Environmental Protection Agency. Laws now require responsible parties to pay to clean up their past contamination, which is often expensive. In response to consumer interests and regulatory enforcement, some corporations have had to change their way of doing things. Some firms have had to learn to recycle, limit waste output (air pollution, water pollution, and soil pollution), and most importantly, follow their hazardous products from creation to final disposal. Consequently, for many organizations, significant risks surround environmental issues. As penalties have increased for poor environmental choices, many companies are paying closer attention to regulations, often going beyond what is required (Smith, 2003).

## **Impact of Environmental Issues on Financial Statements**

### ***Cash Accounting***

Environmental issues can impact on financial statements prepared on a cash basis of accounting. However, the effects on the financial statements are more limited than under financial statements prepared under an accrual basis.

Environmental issues can impact on the cash flows of an entity during the reporting period. In addition there could be an impact where compliance reporting is included in a government financial report. For example, where the entity is required to demonstrate compliance with environmental laws and regulations.

### *Accrual Accounting*

Environmental issues can have an impact on financial statements prepared on an accrual basis in many ways. There are international accounting standards, which address the general principles for the recognition, measurement and disclosure of environmental matters in a financial report (IAS-37). The introduction of environmental laws and regulations may involve an obligation to recognize impairment of assets and consequently a need to write-down the carrying value. A failure to comply with legal requirements concerning environmental matters, such as emissions or waste disposal, may require accrual of remediation works, compensation or legal costs. For example a failure to comply with pollution control laws may lead to fines and penalties for an entity. Some annual operating costs are environmental in nature. For example, energy costs can be considered an environmental cost as the use of fossil fuels is a source of carbon dioxide and air pollution. Some entities may need to recognize environmental obligations as liabilities in the financial statements. For example, obligations associated with solid waste landfill closure and aftercare and restoration obligations associated with mining operations. An entity may need to disclose a potential environmental obligation as a contingent liability where: (a) the possible obligation depends on the possible occurrence of a future event; or (b) the amount of the present obligation cannot be reasonably estimated; or (c) an outflow of resources to settle the obligation is not probable.

In the course of meeting the relevant accounting standard requirements, some additional disclosures in the notes to the financial statements may be required. Examples might include: (a) the industry in which the entity operates and the associated environmental issues (b) the accounting treatment adopted for environmental costs, i.e., what is included, when items are expensed or capitalized, how they are amortized to income etc. (c) fines and penalties which have been incurred under environmental legislation; and (d) Environmental restoration liabilities, including measurement uncertainties, nature and timing (Pinckard and Wendy, 2000).

## **Environmental Accounting Approaches**

### *Physical Approach vs. Monetary Approach*

It is worth mentioning that two approaches adopted in Environmental Accounting. Firstly, the Physical Approach was suggested by the United Nations where a complete guide to be prepared indicating the available resources within a country classified according to its state and uses (for instance, agriculture, desert land etc). Depending on this approach the environmental operations are presented in a physical terms, the current balance of the resource and the additions and deductions from that resource. No monetary value is assigned

according to this approach. Then, the monetary approach emerged due to the fact that the Physical Approach does not fulfill the requirements of the Environmental Accounting. Nevertheless, the physical approach is very important to get physical information about the resources which enables to prepare the environmental statistics and is considered the first step in the Monetary Approach. Despite the difficulties associated with the monetary approach, it gained a lot of interest as such data will enable to know the profit and loss associated with environmental operations and to get an environmentally adjusted economic indicator (Hamid, 2002).

### **Adjusted Balance Sheet (Satellite)**

An adjusted “Balance Sheet” for showing Environmental and Natural assets, Environmental liabilities (Hamid, 2002) are as follows:

**Table-1: Adjusted Balance Sheet (Satellite)**

<b>Assets</b>	<b>Liabilities</b>
<b>Firstly : Environmental &amp; Natural Assets</b> <b>1. Natural [Ecological] Assets</b> <ul style="list-style-type: none"> <li>● Non-Renewable Resources Reserves</li> <li>● Renewable Resources Reserves</li> </ul>	<b>Firstly : Current &amp; Potential Environmental Liabilities</b> <b>1. Current Liabilities:</b> <ul style="list-style-type: none"> <li>● Compliance Liabilities</li> <li>● Treatment Liabilities</li> <li>● Compensatory Liabilities</li> <li>● Natural Assets Liabilities</li> </ul>
<b>2. Environmental Assets</b> <b>A. Current Assets:</b> <ul style="list-style-type: none"> <li>● Pollution Bonds</li> </ul> <b>B. Fixed Assets:</b> <ul style="list-style-type: none"> <li>● Environmental Deposits</li> <li>● Environmental Goodwill</li> <li>● Environmental Performance Bonds</li> <li>● Pollution Bonds</li> </ul> <b>Secondly : Man made assets</b> <ul style="list-style-type: none"> <li>● Current Assets</li> <li>● Fixed Assets</li> </ul>	<b>2. Future [Potential] Liabilities:</b> <ul style="list-style-type: none"> <li>● Compliance Liabilities</li> <li>● Treatment Liabilities</li> <li>● Compensatory Liabilities</li> <li>● Natural Assets Liabilities</li> </ul> <b>Secondly : Owner's Equity &amp; Other Liabilities</b> <ul style="list-style-type: none"> <li>● Owner's Equity</li> <li>● Long Term Liabilities</li> <li>● Short Term Liabilities</li> </ul>

### **Environmental Management Indicators**

Environmental management indicators are needed to properly evaluate whether the environmental management is sustainable or not. In this context, some of the indicators (Ricoh Group’s Environmental Report-FY 2001) are as follows:

#### **1. Economic Benefits of Environmental Conservation Activities**

This factor shows how economically rational environmental conservation activities are.

#### **Economic Benefits**

#### **Environmental Conservation Costs**



If the quotient is one or greater (i.e., the economic benefits are equal to or greater than the environmental costs), then sustainable management is considered valid.

$$\frac{\text{Economic Benefits} + \text{Social Cost Reduction}}{\text{Environmental Conservation Costs}}$$

**Environmental Conservation Costs**

If the quotient is one or greater (i.e., the sum of economic benefits and social cost reduction is equal to or greater than the environmental conservation costs), then environmental management is considered valid.

$$\frac{\text{Environmental Impact Reduction}}{\text{Environmental Conservation Costs}}$$

**Environmental Conservation Costs**

This equation is used to evaluate improvements in the efficiency of investments and other projects.

## 2. *Environmental Efficiency of Business Activities*

This factor shows whether the environmental impact of business activities is acceptable and whether those activities respond to social requests.

$$\frac{\text{Sales}}{\text{Total Environmental Impact (Physical or Monetary Amount)}}$$

**Total Environmental Impact  
(Physical or Monetary Amount)**

This equation is used to evaluate whether environmental impact corresponds to business size.

$$\frac{\text{Value-added Activities}}{\text{Total Environmental Impact (Physical or Monetary Amount)}}$$

**Total Environmental Impact  
(Physical or Monetary Amount)**

This equation is used to evaluate whether profit corresponds to environmental impact.

### **Petrobangla's Effort in Environmental Protection**

The following are the important efforts of Petrobangla for environmental protection:

- In Bangladesh, Petrobangla is mainly responsible for providing natural gas in the economy. To do that Petrobangla complies with the International trend, United Nations framework Convention Climate Change and Kyoto Protocol.
- Petrobangla is giving much effort to introduce Compressed Natural Gas [CNG] to provide pollution free environment. It is providing the necessary infrastructure and gas service station for CNG. As a result the number of vehicles operated by CNG is increasing day by day.

- Petrobangla is encouraging the use of Liquefied Petroleum Gas [LPG] for various purposes as clean kitchen fuel or industrial purposes because LPG is also an environment-friendly automotive fuel.
- Petrobangla regularly conducts Environmental Impact Assessment [EIA] before executing any project in order to ensure comply with the environmental regulatory and taking necessary mitigation measures required to protect the environment and humans.
- Petrobangla gives much effort in pipelines protection and periodical monitoring to avoid any unnecessary environmental hazards.
- Natural radioactive materials are periodically monitored by the atomic authority.
- Petrobangla regularly monitors whether industrial waste water are treated and audited before disposal.
- Petrobangla arranges training and workshops on environment and safety matters for their personnel.
- Petrobangla has developed Environmental Reporting Guidelines for itself and its companies.
- Petrobangla has developed “Environment and Safety Management System” guidelines for itself and its companies with the help of MI Environmental Services, a Division of MARTEC International, Inc. [A Technology and Management Company. SanDimas, California, U.S.A].
- Produced water from drilling operations is treated biologically and regularly checked whether it meets the specified conditions before disposing in a sealed pond where it is evaporated or to rivers.
- Water base-mud from drilling operations is reused after being cleaned from solid particulars.
- Oil base-mud from drilling operations have very harmful impacts on the environment. To reduce this harmful effect, oil base-mud is treated biologically and reused.
- Mud cuttings from the drilling operations are used in road or to fill up the sealed ponds.
- Sewage effluents are treated using biological treatment systems or permeable pits [outside of flooded areas.]

### **Environmental Reporting in Petrobangla Companies**

Over the years activities of Petrobangla has expanded and diversified to a great extent. To manage these activities Petrobangla has created specialized companies to perform specific operations. Currently, there are 11 companies operating under Petrobangla, dealing in oil and gas exploration, production, transmission, distribution, conversion and development and marketing of coal and hard rock. Some of the companies disclose environmental information in their annual report and some do not.

**Table-2: Environmental Information Disclosed by Petrobangla Companies in their Annual Report**

Year	No. of Companies disclosing Environmental Information	No. of Companies not disclosing Environmental Information	Total Number of Companies
1998-1999	5	6	11
1999-2000	5	6	11
2000-2001	7	4	11
2001-2002	9	2	11
2002-2003	9	2	11

During 1998-99 and 1999-2000, only 45.45% companies of Petrobangla disclosing environmental information. During 2000-01, 63.63% companies of Petrobangla disclosing environmental information and during 2001-02 and 2002-03, 81.81% of companies of Petrobangla disclosing environmental information. This figures and graphs show an upward trend in the disclosure of environmental information by Petrobangla Companies.

### **Nature of Environmental Reporting of Petrobangla Companies**

The nature of Environmental Reporting of Petrobangla Companies is as follows:

- Petrobangla companies have disclosed only qualitative and descriptive information without any attempts at quantification.
- Most of the Petrobangla companies only show positive information and there is no negative information.
- The environmental information can only be found either in the Chairman's statement or Director's report.

- Most of the Petrobangla companies only show their environmental issues regarding protection of the environment, pollution control, planting of trees and other matters. They do not show any information regarding waste generation, conservation of energy, water wastage and recycling of waste, noise nuisance and so on.
- Petrobangla companies do not disclose any exact quantitative facts on expenditure incurred and targets set and achieved.

### **Environmental Reporting of Petrobangla companies**

Some of the Petrobangla Companies disclose environmental information in the following ways:

#### **(i) Gas Transmission Company Limited [2000-01]**

Proper co-ordination is being maintained with environmental and safety division of Petrobangla for maintaining the national commitment on ecological balance and environmental protection. In line with Government decision a significant number of trees were planted in the under implementation project areas and installations of the company for ensuring ecological balance during the financial year 2000-2001. In view of the importance of environmental conservation, a Safety and Environmental section was included in the revised organogram.

#### **(ii) Jalalabad Gas Transmission & Distribution System Limited [2001-02]**

In pursuance of Government policy and directives to help maintain ecological balance and prevent environmental pollution, the company in co-ordination with concerned division of Petrobangla undertook tree plantation programmes every year in its different establishments. During the year under review, 280 nos. of trees of different species have been planted and existing plants have been properly nursed and well taken care of.

#### **(iii) Sylhet Gas Fields Limited [2001-02]**

With a view to protect the environment in keeping with the national commitment and to create a sense of awareness among the offices and employee, tree plantation programmes were undertaken at the Head office, different gas fields and residential areas of the company.

#### **(iv) Bangladesh Gas Fields Company Limited [2001-02]**

Recommendations relevant to company activities which were made in the final report of Environment and Safety Management System [ESMS] project of Petrobangla are being implemented at different fields/installations and departments of the company. Various Programmes continue to be undertaken to enhance awareness regarding environmental and Safety aspects of company activities.

**(v) Pashchimanchal Gas Company Limited [2001-02]**

Environment, health and safety are integral part of company's operational policy considerations. A massive tree plantation programme has been implemented at PGCL's premises at Baghabari, Nalka and Sadanandapur; this will give the DRS/RMS an environment friendly look. PGCL also has taken necessary measures as per standard code and practice, to ensure safety and security at Town Bordering Station [TBS] and Consumer Metering Station [CMS].

**(vi) Barapukuria Coal Mining Company Limited [2001-02]**

The company management is taking all necessary measures for protection of environment. "Safety Week" was observed jointly by the company and CMC to enhance safety awareness. Water discharged from the mine area is tested regularly to prevent discharge of polluted water. Plantation of trees started since beginning of the project and continued during this year also.

**(vii) Maddhapara Granite Mining Company Limited [2001-02]**

The company has taken necessary measures to prevent environmental pollution at project site during implementation period. For this reason, the mine water and the tube well water of officers/staff residential area are being examined regularly. Moreover, various gases that come out from the mine are being measured by using gas analyzer.

### **Findings of the Study**

The major findings of the study are as follows:

- Petrobangla and its companies do not maintain any provision for contingent environmental liability.
- Petrobangla and its companies do not classify the expenditure [incurred for the improvement of the environmental performance] capital and operating nature. They treat the whole expenditure as operating expenditure.
- Petrobangla and its companies prepare their accounts according to the traditional accounting system i.e., there is no determination and classification of environmental expenditures.
- Petrobangla and its companies do not show any economic valuation of the reserve of Oil, Gas and Coal resources in their annual report.
- Petrobangla companies disclose only qualitative and descriptive information without any attempts at quantification.
- Most of the Petrobangla companies only show positive environmental information and there is no negative information.
- The environmental information can only be found either in the Chairman's statement or Director's report.

- Most of the Petrobangla companies only show their environmental issues regarding protection of the environment, pollution control, planting of trees and other matters. They do not show any information regarding waste generation, conservation of energy, water wastage and recycling of waste, noise nuisance and so on.
- Petrobangla companies do not disclose any exact quantitative facts on expenditure incurred and targets set and achieved.
- Petrobangla has developed a computerized accounting system for itself and its companies but there is no item relating to environmental costs, environmental liability, and economic value of Oil, Gas and Coal resources in their software.
- Petrobangla and its companies do not maintain any approaches [either physical or monetary approaches] of environmental accounting.
- Petrobangla has developed the guidelines for “Environment and Safety Practice” for itself and its companies. But no consistency with the guidelines in their annual report has been found.

### **Conclusion and Recommendations**

In the modern globalized economy, policy makers, corporate executives, citizens of the country and environmentalists have become more concerned about sustainable development. In response to that concern, many leading organizations of the world are taking initiatives to ensure sustainable development. In the present situation, it is necessary for Petrobangla and its companies to practice environmental accounting to comply with the international trend, although implementation of environmental accounting will face many problems such as lack of available environmental performance related information, lack of experts etc. The following are the recommendations based on the findings of the study:

- This study indicated that the Petrobangla has already given much effort in the field of environmental protection. However, the current accounting system does not reflect such efforts for its stakeholders. So, Petrobangla should take the initiative showing such activities in their accounts.
- Environmental expenditures incurred by Petrobangla and its companies should be classified into capital expenditures [e.g., Purchasing a new Recycling Machine, Tree plantation, Soil remediation] and operating expenditures [e.g., annual operating and maintenance cost of the Recycling Machine, annual operating and maintenance cost of the Tree plantation].
- Environmental bodies of Petrobangla should develop a standard to guide the practices of Environmental Accounting and Reporting.
- Research and studies should be encouraged in the field of Environmental Accounting and Reporting.

- Environmental division of Petrobangla should strictly oversee that the Petrobangla companies maintain their guidelines in reporting the environmental issues in their annual reports.
- Environmental Accounting and statistics units should be developed for Petrobangla itself and its different companies.
- A Separate account should be opened for environmental expenditures. It will enable measurement and reporting of environmental expenditures and environmental performance of each company as well as the whole sector.
- According to standard no. 69, issued by the Financial Accounting Standards [FAS] Committee in the United States requires a systematic measurement for the net cash flows regarding the proved oil and gas reserves. Such information is required to be published as supplementary information attached to the standard published accounting sheets and data. Petrobangla and its companies should follow this standard.
- Petrobangla and its companies should show the economic value of the reserve of Oil, Gas and Coal resources in their annual report.
- Petrobangla and its companies should maintain both physical and monetary approaches of environmental accounting.
- Petrobangla and its companies should use the earlier suggested balance sheet to show the present condition of oil, natural gas and coal resources.
- Petrobangla and its companies should use the earlier suggested environmental management indicators to ensure the viability of their environmental management.
- Petrobangla should maintain the provision for environmental liability.
- Petrobangla and its companies should show data on environmental expenditure, environmental costs charged to income in the notes to the accounts in their annual reports.
- Petrobangla and its companies should show fines and penalties paid by the company, environmental liabilities of the company, environmental provisions, and environmental costs capitalized in the notes to the accounts in their annual reports.

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