Research Paper Management

Indian Scenerio of Greenhouse Gas Reporting

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ABSTRACT

2013 was the historic year for climate action as India prepared commitments to reduce their greenhouse gas (GHG) emissions. In order to be successful, governments must have an abundance of a particularly valuable resource—emissions data. Governments can get granular data on emissions through mandatory GHG reporting programs, which can enhance their understanding of specific emissions sources within each sector and create effective policies to reduce them. So far, at least 40 countries, as well as several sub-national regions, have implemented such programs. Today, the Partnership for Market Readiness (PMR) and WRI released the report guide for designing mandatory Greenhouse Gas Reporting Programs, which provides step-by-step guidance on developing and implementing such programs.

This paper aims to provide some basic information on mandatory emissions reporting programs and its regulations in India. This paper can help the corporates and scholors to understand the climate challenges faced by the India and acquaint them with the various standards provided by GRG Protocol.

KEYWORDS Greenhouse gas, Profitability, Climate change.

INTRODUCTION

Greenhouse gases from human activities are the most significant driver of observed climate change since the mid-20th century. As greenhouse gas emissions from human activities increase, they build up in the atmosphere and warm the climate, leading to many other changes around the world—in the atmosphere, on land, and in the oceans. These changes have both positive and negative effects on people, society, and the environment—including plants and animals. Because many of the major greenhouse gases stay in the atmosphere for tens to hundreds of years after being released, their warming effects on the climate persist over a long time and can therefore affect both present and future generations.

Between the year1970 and 2004, global greenhouse gas emissions have increased by 70%. However, since 2004, total Developing nations's greenhouse gas emissions have increased considerably. Carbon dioxide accounts for most of the nation's emissions and most of the increase since 1990. Electricity generation is the largest source of greenhouse gas emissions in the United States, followed by transportation. Emissions per person have decreased slightly in the last few years.

Greenhouse gases comprises of Carbondioxide, Methane,Nitrousoxide and Fluorinated gases.Among all, ***Carbon dioxide's lifetime is poorly defined because the gas is not destroyed over time, but instead moves among different parts of the ocean–atmosphere–land system.***

It shows the energy sector is the dominant source of greenhouse gas emissions. It contributes more than 75% of global emissionsRESEARCH OBJECTIVES:

1. The major objective of this research paper in to understand the concept of green house gas reporting and its regulations.

2. The secondary objective of this paper is to create awareness among corporates about their role in facing the climate challenges and in reducing global emissions.

3. To show country wise and sector wise contribution in global greenhouse gas emission. It shows the energy sector is the dominant source of greenhouse gas emissions. It contributes more than 75% of global emissionsIt shows the energy sector is the dominant source of greenhouse gas emissions. It contributes more than 75% of global emissions

RESEARCH DESIGN AND SOURCE OF DATA COLLECTION:

The research paper is an attempt of exploratory research, based on the secondary data sourced from journals, magazines, articles and media reports.

Looking into requirements of the objectives of the study the research design employed for the study is of descriptive type. Keeping in view of the set objectives, this research design was adopted to have greater accuracy and in depth analysis of the research study.

Available secondary data was extensively used for the study. Different news articles, Books and Web were used which were enumerated and recorded.

GREEN HOUSE GAS (GHG) PROTOCOL:

The **Greenhouse Gas (GHG) Protocol**, developed by World Resources Institute (WRI) and World Business Council on Sustainable Development (WBCSD), sets the global standard for how to measure, manage, and report greenhouse gas emissions.

Hundreds of companies and organizations around the world are using GHG Protocol standards and tools to manage their emissions and become more efficient, resilient, and prosperous organizations.

INDIAN GHG PROGRAM:

The India GHG Program was launched in July 2013 by WRI India, The Energy and Resources Institute (TERI), and the Confederation of Indian Industry (CII), with support from India's key businesses as founding member companies.

The India Greenhouse Gas (GHG) Program is a voluntary, industry-led partnership, focused on building institutional capabilities towards measuring and managing greenhouse gas emissions, based on the GHG Protocol.

Several progressive companies, including automotive, aviation, telecom, cement, chemicals, manufacturing, financial services, information technology, consumer, agri-business, textiles, and others are voluntary members of the Program.

Over the last few years, with the release of India's National Action Plan on Climate Change, the Low Carbon report, the

pilot initiative on trading of pollutants from power plants and the mandatory scheme on energy efficiency trading, the discourse regarding the role and involvement of Indian industry in achieving the country's energy and carbon intensity goals has matured considerably. At the same time, a small number of Indian companies are becoming more open to their stakeholders, investors and consumers about their environmental footprint, including carbon footprint, as they realize the business benefits of doing so.

The total inventory managed by businesses under the India GHG Program ranges from 300 to 360 million TCO2e. This is equivalent to 15 to 25 percent of India's total emissions.

MAIN OBJECTIVES OF INDIAN GHG PROGRAM

The India GHG Program aims to establish a robust and effective institutional set-up providing access to-

Internationally recognized and locally relevant GHG measurement and accounting tools.

Customized training and capacity building initiatives.

Relevant industry specific best practices, benchmarking data and analytics

Expertise on appropriate goal setting and voluntary targets

The Business solutions to facilitate GHG emission reductions.

CLIMATE CHANGE CHALLEGES FACED BY INDIA

While it is difficult to quantify the expected impact of climate change, a recent World Bank study indicates that countries like India will need USD 70 to 100 billion each year through 2050 to meet the current and future climate adaptation needs. The challenges, including water availability, changing rainfall patterns, resilience capabilities, disaster management, and others hold serious implications for communities, businesses, and for the country's future growth and development.

ROLE OF CORPORATE SECTOR IN FACING CLIMATE CHALLENGES

Businesses are not only essential for continued economic growth, but they also have an immense opportunity in aiding large-scale reduction of emissions which can help mitigate the impacts of climate change. Approximately 38 percent of India's greenhouse gas emissions come from energy generation and industrial and commercial users consume about 76 percent of that energy. Efforts such as conducting a GHG inventory of operations, mapping the supply chain, and investments in energy efficiency yield quick paybacks and generally correlate to improved overall operations, and can have a sustained action on climate change.

ROLE OF INDIAN GHG PROGRAM TO REDUCE CORPORATE EMISSIONS

The Program will develop an internationally consistent and locally relevant GHG measurement and accounting framework based on the GHG Protocol. It will act as a center of excellence on GHG management in India, providing an array of services to industry, including: training and capacity-building, pragmatic tools, data analytics and benchmarking, as well as compiling sectoral, industrial, and regional best practices that can inform other initiatives. The powerful partnership of WRI, TERI, and the CII will bring support and insights on actual business solutions to enable member organizations to realize the value in measuring and reducing their GHG emissions.

GHG PROTOCOL CORPORATE STANDARDS:

The GHG Protocol Corporate Standard provides standards and guidance for companies and other types of organizations preparing a GHG emissions inventory. It covers the accounting and reporting of the six greenhouse gases covered by the Kyoto Protocol—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF_6). The GHG Protocol Corporate Standard was expanded in May 2013 to include a seventh greenhouse gas - nitrogen trifluoride (NF_3).

Corporate Accounting and Reporting Standards (Corporate Standard)

The Corporate Standard classifies a company's direct and indirect GHG emissions into three "scopes," and requires that companies account for and report all scope 1 emissions (i.e., direct emissions from owned or controlled sources) and all scope 2 emissions (i.e., indirect emissions from the generation of purchased energy consumed by the reporting company). The Corporate Standard gives companies flexibility in whether and how to account for scope 3 emissions (i.e., all other indirect emissions that occur in a company's value chain).

Product Life Cycle Accounting and Reporting Standard
Main Image:

The GHG Protocol Product Life Cycle Accounting and Reporting Standard (referred to as the Product Standard) provides requirements and guidance for companies and other organizations to quantify and publicly report an inventory of GHG emissions and removals associated with a specific product. The primary goal of this standard is to provide a general framework for companies to make informed choices to reduce greenhouse gas emissions from the products (goods or services) they design, manufacture, sell, purchase, or use.

Project Accounting Protocol and Guidelines
Main Image:

The GHG Protocol for Project Accounting (Project Protocol) provides specific principles, concepts, and methods for quantifying and reporting GHG reductions—i.e., the decreases in GHG emissions, or increases in removals and/or storage—from climate change mitigation projects (GHG projects). The Project Protocol's objectives are to Provide a credible and transparent approach for quantifying and reporting GHG reductions from GHG projects.

Rankings of the highest CO2 emitting power companies in India (year: 2012/13)

Rank	Company	CO2 Emissions (million tCO2) Fiscal Year 2012/13	Net Generation (TWh) Fiscal Year 2012/13	Emission-factor (tCO2/MWh)
1	NTPC	203.4	218	0.932
2	Mahagenco	41.8	42.6	0.979
3	JSW Energy	26.4	26	1.013

Total of CO2 emissions published in year 2012-2013 : 696 million tCO2

Total of net electricity generation published in year 2012-2013 : 838 TWh

TOP TEN GREENHOUSE GAS EMITTING COURNTRIES (year:2012)		
RANKING	*COUNTRIES*	*PERCENTAGE OF TOTAL EMISSION*
1.	*China*	*25.26%*
2.	*United States*	*14.4%*
3.	*Europian Union*	*10.16%*
4.	*India*	*6.96%*

5.	*Russia*	*5.36%*
6.	*Japan*	*3.11%*
7.	*Brazil*	*2.34%*
8.	*Indonesia*	*1.76%*
9.	*Mexico*	*1.67%*
10.	*Iran*	*1.65%*
(Source: World Resource Institute,2012)		

The above table of global emissions tells a number of stories: The largest emitters contribute a majority of global emissions. The top 10 emitters contribute 72 percent of global greenhouse gas emissions (excluding land use change and forestry). On the other hand, the lowest 100 emitters contribute less than 3 percent. While universal climate action is necessary, significant mitigation actions are needed by the largest emitters.

The energy sector is the dominant source of greenhouse gas emissions. The energy sector contributes more than 75 percent of global greenhouse gas emissions.

Six of the top 10 emitters are developing countries. According to the data, China contributes approximately 25 percent of global emissions, making it the top emitter. India, Indonesia, Brazil, Mexico and Iran are also contributing relatively large shares of global emissions as their economies grow.

CONCLUSION

Greenhouse gas reporting is a one of the facet of Social repsonsibility of companies where companies should keep track on the harmul impact of their activities on the global environment and climate changing conditions. Indeed Corporates are essential for continued economic growth of any country but they also have to contribute in aiding large-scale reduction of emissions which can help mitigate the impacts of climate change.Companies across the globe have started to realise the importance of GHG reporting and inititing the steps to lessen the emmisions. But still it is found from the various studies that there is a need for creation of awareness about GHG Protocol amongst the general public and corporates to make GHG initiatives more effective. This effort will also motivate other corporate houses to join the league and play an effective role in addressing issues such as access to water management, low carbon footprint, energy efficient product development etc. It is difficult for one single entity to bring about change, as the scale is enormous. Effective partnerships between corporate, NGOs and the government will place India's social development and ecological balance on a faster track.

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