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ESG Reporting: Environmental Dimension Disclosures by Large Energy Sector Companies in India

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Abstract:

Reporting about the Environmental, Social and Governance (ESG) dimensions of the business is fast becoming the norm for corporates the world over. Climate change is seen as the largest threat to the achievement of the UN Sustainable Development Goals. Given the importance of the energy sector and the impact it has on the environment, it was decided to explore the Environmental Dimension Disclosures (EDD) by the large energy sector (comprising of oil and gas; coal and power) companies in India. For this, content analysis of those energy sector companies was performed which have filed their Business Responsibility and Sustainability Reports (BRSR) with the National Stock Exchange of India. Filing of BRSR has been mandated for the largest 1000 companies in India by the Securities and Exchange Board of India (SEBI) from the Financial Year 2022-2023 but was voluntary for the first year (2021-2022). The study provides a detailed analysis of which questions of the BRSR relating to the environmental dimension are answered and how. The main limitation of the study is that it does not include some of the large energy sector companies since they have not filed their BRSR as it was voluntary this year. However, the detailed analysis of reporting on the environmental issues such as reduction achieved in the energy and water intensity and GHG, other emissions and waste generated with reference to turnover, has implications for policies on these disclosures including sector-specific guidelines. This is the first study based on a detailed qualitative analysis of BRSR.

Keywords: *ESG Reporting, energy sector in India, BRSR, corporate environmental responsibility, sustainability reporting.*

Introduction

In the past, society's only expectation from business organizations was that they produce and supply goods and services needed by the people. The business was considered successful if it could do it efficiently i.e., at a low cost. The yardstick for the performance of a company's management was how much profits (returns on investment) it could generate for its owners. The world has changed drastically and the societal expectations from business today are manifold. The business is now held responsible for its environmental and social impact, not just the conventional economic (financial) impact. The term 'Triple Bottom-line' and 'stakeholder

capitalism' are used to convey the responsibility of contemporary business managers toward multiple stakeholders, not just the investors (Elkington, 2013; Freeman et al., 2007).

While financial accounting principles have developed over a long time to measure the financial impact of business in a way that is universally accepted, methods to measure the social and environmental impacts have started to develop only recently. At present, certain frameworks have been widely used by the corporates worldwide and have achieved a certain legitimacy. These include - Global Reporting Initiative (GRI), United Nations Sustainable Development Goals (SDGs), Task Force on Climate-Related Financial Disclosures (TCFD), Sustainability Accounting Standards Board (SASB) Framework, United Nations Global Compact guidelines, International Finance Corporation standards on Environment Social and Governance (ESG) reporting etc. However, it would not be wrong to say that ESG reporting frameworks/standards have still not matured if we compare them to financial reporting standards and frameworks.

Nonetheless, globally more and more companies (particularly large corporations) are currently reporting on the non-financial aspects of their business either in the form of a standalone 'Sustainability Report' or 'Integrated Reports'. As per the latest KPMG report (2022), of the largest 250 global corporations, 96 percent reported on ESG or Sustainability issues.

Though some large Indian corporates e.g. Reliance Industries Ltd.; TATA and its 40 group companies; Infosys and Wipro etc. have been voluntarily publishing sustainability reports since the early 2000s, ESG reporting was voluntary in India till 2012 (Gupta & Motwani, 2023). The Ministry of Corporate Affairs (MCA) issued National Voluntary Guidelines (NVGs) on the Social, Environmental and Economic Responsibilities of Business in 2011. Based on these, the Indian Stock Markets regulator – the Securities and Exchange Board of India (SEBI) mandated the publishing of Business Responsibility Reports (BRR) by the top 100 Indian companies in 2012 and extended it to the top 1000 companies by 2019. However, owing to concerns being raised about the quality and reliability of the information contained in BRRs, SEBI in its circular dated May 10, 2021 (Securities and Exchange Board 2021), updated the mandatory ESG reporting framework which is known as Business Responsibility and Sustainability Reporting (BRSR).

The BRSR is based on the National Guidelines for Responsible Business Conduct (NGRBC) and is proposed to be extended to all companies, including Limited Liability Partnerships (LLPs), in the next five years. The BRSR is more extensive than the BRR and is driven by the United Nations Sustainable Development Goals (SDGs), the Paris Agreement and the International Labour Organization (ILO) Convention. Its reporting requirements are comparable with other internationally accepted frameworks on ESG. Reporting under BRSR was voluntary for the financial year 2021-22 and is mandatory for the top 1000 listed companies in India (based on market capitalisation) from the financial year 2022-23.

The E in the ESG focuses on the Environmental Dimension of the Corporate's non-financial Disclosures (hereafter EDD). The most important environmental issues facing the world today are: global warming; waste and pollution; depletion of resources and sustainability issues. Recognising the need to combat climate change, majority of the world's countries have committed to a reduction in their GHG emissions, as outlined in the Paris Agreement and more recently at the 2021 United Nations Climate Change Conference (COP 26).

United Nations declared 17 Sustainable Development Goals to protect the planet and to ensure safety and justice for all. The 197 member states are committed to achieve these goals by 2030. Unlike in the past when the UN Millennium Development Goals were a call for action by the governments of their member states, the SDGs require both the governments and the business to work towards achieving these for 'shared prosperity'.

Energy sector is a key driver of economic growth and sustainable development. It can contribute

to all SDGs either by enhancing their positive impacts, or by preventing and mitigating their negative impacts, on the environment. Ensuring access to energy for all while transitioning toward a low-carbon economy is one of the challenges faced by the sector.

The objective of the study is to determine the overall status and extent of environmental disclosures among large Indian Companies operating in the Energy Sector. The motivations for the current study arise from the huge environmental impact that energy sector companies have (detailed in the next section) and the changes in the regulatory framework of ESG reporting in the Indian context.

Literature Review

As the importance of ESG disclosures and the reporting and regulation concerning these have grown over the last twenty years, so has the research on ESG reporting. While the terms 'Sustainability Reporting' and 'Non-Financial Reporting' were more popular in the 90s and early 2000s, it is 'Corporate Reporting' and 'Corporate Social Responsibility Reporting' that gained currency in later years. More recently, 'Integrated Reporting' and ESG Reporting' are the preferred terms for these disclosures.

Of the three dimensions of ESG disclosures, it has been noted that Environmental reporting quality faces many challenges in providing accurate and transparent information (Kolk, 2008). A bibliometric review of Corporate Environmental Disclosures (CED) based on 565 articles published in 215 academic journals during 1982 – 2020 identifies "three core research streams: 'legitimization of environmental hazards via environmental disclosures'; 'the role of environmental accounting in achieving corporate environmental sustainability'; and 'integrating ESG practices into the global reporting initiative (GRI) guidelines'" (Bilal et. al., 2023). Narolia and Sapra (2023) also present an extensive review of studies on CED specifically by polluting industries and subscribe to the view that 'stakeholder theory' and 'legitimacy theory' are "the two prominent socio-political theories to explain the environmental disclosures by companies".

Sector-specific studies of EDD particularly in the context of emerging economies are very few though some research has been undertaken in recent years (Kriplani & Bhanawat, 2021; Bilal et. al., 2023; Narolia & Sapra, 2023). However, most of these studies adopt a scorecard approach assigning a certain score (0, 1, 2, 3) for no, partial or full disclosures made and do not discuss which parameters are disclosed and how. Many of these studies run regression analysis to find factors affecting the amount of ESG disclosures. Qualitative studies in general and that of EDD are scant. Baalouch, Ayadi and Hussainey (2019) question the widely believed notion that a 'high volume' of EDD contributes to a 'high quality' of disclosure and citing others' work argue that "quantity is not a good proxy for disclosure quality in assessing narrative disclosure and the richness and quantity of disclosure are independent dimensions" (p. 940-941).

This paper fills the gap in the literature by studying an unexplored area related to the quality of EDD in the context of an emerging economy implementing regulatory guidelines/ framework for ESG reporting. Though Karlapudi and Reddy (2022) studied the ESG disclosure practices of public and private sector power generation companies in India, their study is neither focused on EDD nor does it include the oil, gas and coal sectors. Using a scorecard approach, their study finds that not only do the ESG disclosures differ between private sector companies and public sector (government-owned) companies but also among the companies in each group. It is, therefore, meaningful to study the disclosures on different aspects of EDD i.e. use of scarce resources as well as waste and gas emissions, by individual companies.

We decided to study EDD in the energy sector in general and oil and gas in particular because of their large environmental impact.

Materials and Methods

Since the Energy sector in general and Oil and Gas sector, in particular, are the most polluting and have a large environmental impact, it was decided to study the following three industrial groups that are included in the broad Energy Sector:

- Oil and Gas Exploration, Production (including Refineries) and Distribution (Oil and Gas)
- Consumable Fuels
- Power Generation and Distribution

For understanding the extent and quality of EDD in the energy sector, it was decided to undertake 'content analysis' of the BRSR reports of large Indian companies in the above three industries. Our sample, therefore, had to meet the three criterion: (i) the company should be large, (ii) it should be engaged in the production and/or distribution of energy i.e. oil, gas, consumable fuels, electricity and (iii) it should have filed the BRSR report for FY 2021-2022. Of the 1980 companies listed and traded on the National Stock Exchange, 342 had market capitalisation of 10000 crore rupees (approximately US $ 1.25 Billion) of which 26 companies were engaged in the production and distribution of energy (This excludes three companies - REC Ltd., IEX Ltd. and PFC Ltd. that were classified as energy sector companies as per the NSE classification but were not included here since these are engaged in the financing and trading of energy products and not its production or distribution). Of these only ten had filed their BRSR reports. One of them – Adani Green Energy Limited (AGEL) is engaged in the production of 'Green Energy' i.e. production of power from renewable sources of energy such as wind, air and solar energy. Since the purpose of selecting the energy sector for the present study is that this sector has large negative impacts on the environment, it was decided not to include AGEL in our sample and the remaining nine companies formed our sample (see Table 1).

Table 1. Names and Details of the Sample Companies

Name of the Company	Industrial Sector	Market Capitalisation in Rs. Crores*	Abbreviation used in this paper
Adani Total Gas Ltd.	Gas	406143	ATGL
Coal India Ltd.	Consumable Fuels	138692	Coal India
Adani Power Ltd.	Power	115535	Adani Power
Indian Oil Corporation Ltd.	Oil and Gas	108027	IOC
Tata Power Company ltd.	Power	66367	Tata Power
Indraprastha Gas Ltd.	Gas	28977	IGL
Oil India Ltd.	Oil and Gas	22577	OIL
NLC India Ltd.	Power	11939	NLC
CESC Ltd.	Power	10127	CESC

* As on 30/12/2022 (1 Crore INR = 120854 US$)

Source: NSE website

The Business Responsibility and Sustainability Report (BRSR) in India has a specific structure, as prescribed by SEBI (Securities and Exchange Board of India 2021: Annexure 1) which is divided into three sections: Section A -General Disclosures, Section B -Management and Process Disclosures, and Section C- Principle-wise Disclosures. Sections A and B are mandatory, while Section C has two categories of disclosures: (1) Essential indicators which are mandatory and (2) Leadership indicators which are voluntary and are only reported by companies that aim to improve their responsible practices to a higher level.

The basis for selection of the questions was – (a) relevance, (b) materiality and (c) comparability. For example, questions relating to the absolute amount of waste generated or energy consumption or GHG and other gas emissions,

though relevant, are not comparable across companies of different sizes and belonging to different industries. Therefore, what we analysed were parameters such as: (i) the percentage of materials sourced from sustainable sources; (ii) the direction of change i.e. whether the company has increased or decreased its GHG and other emissions and waste generated (ii) the increase or decrease in the amount of energy or water used per crore Rupees of Turnover and (iv) the percentage of waste recycled, reused, safely disposed of as these were found to be more meaningful than absolute amounts.

Results

One of the questions included in the BRSR asks the companies to *indicate material responsible business conduct and sustainability issues pertaining to environmental and social matters that present a risk or an opportunity to their business, rationale for identifying the same, approach to adapt or mitigate the risk along-with its financial implications* (Question 24 Section A).

All the nine sample companies identified climate change (adaptation and mitigation)/CO2 emissions as one of the material concerns. The other issues identified included:

– Energy and emissions efficiency/reduction/management;
– Water management and waste management;
– Pollution and environmental sustainability.

None of the companies has reported the financial implications of these risks. Three companies (IOC, OIL and NLC) mentioned 'Negative' under the financial implications while two others (Adani Power and ATGL) mentioned that the process of identifying and quantifying the financial implications of the identified risks and opportunities is currently underway.

Section B of BRSR asks six questions relating to the structures, policies and processes put in place by the companies towards adopting the NGRBC Principles and Core Elements. We analysed the companies' responses to these questions pertaining to the two Principles closely related to EDD (Principle 2 and 6). All nine companies answered Yes to the company having Board approved policies with web links to it for these two NGRBC principles (Question 1 a, b, c of Section B).

In response to the question of whether the above policies have been translated into procedures (question 2), eight companies said yes (OIL did not report).

All the nine companies reported (in answer to question 3) that these policies extended to their value chain partners. However, what they understand by (or whom they include in) their value chain partners are not clear. Life Cycle Assessment (LCA) is one of the ways to identify value chains but we found that none of the sample companies have performed LCA.

Most companies named ISO 9001; ISO 14001 and ISO 45001 (or 50001) as the standards adopted by their entity in respect of these two Principles while answering question 4. Other codes/certificated/standards mentioned by few companies included: GRI Standards; UN SDGs; UNGC Principles; Carbon Disclosures Project etc.

Question 5 asked the companies to *disclose the Specific commitments, goals and targets set by the entity with defined timelines, if any. Though all except one company* (Coal India) answered this question, it was only three companies (Tata Power, Adani Power and ATGL) that outlined specific targets. Many companies gave vague answers such as "The Company voluntarily follows principles and policies for transparency which are of International Standards apart from adhering to statutes and policies of the Government of India (Oil India Limited 2022: 7). A few listed their initiatives/projects undertaken for environmental sustainability.

Similarly, question 6 about the companies' performance on the commitments listed under the answers to question 5 and reasons if goals and targets are not met, were reported by only six companies of which only two (Tata Power

and ATGL) gave specific answers while other four gave general/vague answers.

Sustainable Provision of Goods/Services (principle 2)

This section analyses the important questions included under the Essential Indicators for Principle 2.

Percentage of R&D and Capex Investments to Improve Environmental Impact

One of the Essential Indicators asks the companies to report the *Percentage of R&D and capital expenditure (capex) investments in specific technologies to improve the environmental and social impacts of product and processes to total R&D and capex investments made by the entity, respectively* (Question 1 under Principle 2). Only three of the nine companies have mentioned these percentages (Table 2).

Table 2. Percentage of R&D and Capex Investments for Improvements

	IOC	NLC	OIL
R & D	100%	30%	63%
CAPEX	100%	11%	

Source: BRSR reports of sample companies (NSE Website)

The other six companies have given details of the projects/steps taken by them and a few have mentioned absolute amount invested but not given the percentage.

Procedures for Sustainable Sourcing

Eight of the nine companies (all except OIL) have answered in affirmative to the second question under essential indicators for Principle 2 which asks them whether they have procedures in place for sustainable sourcing. However, only CESC, IGL and Tata Power have answered part (b) of the question and given the percentage of inputs that were sourced sustainably while NLC mentioned 'most'.

Question on Safe Disposal of Products at the end of Life Not Answered Transparently

Question 3 specifically asks the companies to Describe the processes in place to safely reclaim your products for reusing, recycling and disposing at the end of life, for (a) Plastics (including packaging) (b) E-waste (c) Hazardous waste and (d) other waste. Upon reviewing the answers provided by the companies, it appears that the companies have not fully addressed the intended purpose of the question. Companies are legally obligated to manage the waste (generated during the production process) in accordance with various environmental regulations and they disclosed that they are following the laws applicable to waste disposal in answer to this question which was an enquiry about the processes employed for product reclamation, recycling, and safe disposal at the end of their life cycle. Only IOC has mentioned that product recycling is not practiced by it at present. Adani Power mentions that its product (electricity) cannot be recycled or reused but is silent about the waste generated by packaging and other waste. Most of the companies have described the processes in place for the safe disposal of waste generated (during the production processes) which is asked separately as question 8 under Essential Indicators of Principle 6. This is despite the fact that the guidance for reporting under BRSR clearly mentions that for this question -

"Reclaiming refers to collecting products and their packaging materials at the end of their useful lives, for reusing, or recycling or safe disposal. Reclaimed items can include products and their packaging materials that are collected by or on behalf of the organization, by a third-party contractor." (Securities and Exchange Board of India 2021: Annexure 2 p. 11)

Respecting, Protecting and Restoring the Natural Environment (Principle 6)

There are 12 questions under the Essential Indicators for Principle 6. Some of the questions that were found relevant for our study were analysed.

Energy Intensity

Energy intensity was measured in Giga Joules per crore rupees of Turnover. Since absolute amounts are not comparable across the three industrial sectors, we looked at the direction of change as compared to the previous year. While Coal India did not report the energy intensity, IGL did not report it for the previous year (2020-21) so it is not possible to say whether its energy intensity has declined or increased. CESC did not report the energy intensity but only percentage increase in consumption at its two plants which seems to be less than the percentage increase in their production (presumably also in turnover) and therefore we may say that the energy intensity has declined. The energy intensity of the remaining six companies as reported has declined during FY 2021-22 as compared to FY 2020-21.

Table 3. External Assurance

Name of the Company	Name of the Agency providing External Assurance
Adani Power	DNV Business Assurance India Pvt. Ltd
ATGL	Intertek India Pvt. Ltd.
Tata Power	Deloitte

Source: BRSR reports of sample companies (NSE Website)

Water Intensity

Water intensity is measured in KL per crore rupees of Turnover. Coal India did not report and IGL reported only for FY 2022-22 so cannot say whether its water intensity has declined or increased. CESC reported no change in water intensity in one plant and zero usage in the other plant. A decline in water intensity is reported by the remaining six companies.

Independent Assessment/Evaluation or Assurance by an External Agency

Only three of the nine companies reported that their energy and water intensity data was externally assured (Table 3).

Mechanism for Zero Liquid Discharge (ZLD)

Except for two companies – IGL which answered 'NO' and NLC which wrote 'Not Yet', all other companies reported having taken steps to ensure ZLD which is one of the leading wastewater treatment processes with recovery of about 90 to 95 percent of water from effluents. In India, stringent laws and regulations mandating in-house wastewater treatment plants for certain industries have been enacted by the Central Pollution Control Board. The list of industries to which these regulations apply includes Oil and Gas as well as Power Generation. and therefore, it is compliance with the relevant laws more than any voluntary environmental consciousness that seems to result in the companies reporting action taken to ensure ZLD.

Air Emissions other than GHG Emissions

Only two companies (IGL and OIL) did not provide information on this. Others provided data and few of them mentioned that they are complying with the law in this regard. However, only one company (Adani Power) had its emission data being assured by an independent outside agency.

Scope 1 and Scope 2 Emissions

Coal India did not report their GHG emissions while CESC reported only Scope 1 emissions which have increased. IGL reported the emissions only for current year so cannot say whether these have gone up or down. The calculations based on the total Scope 1 and Scope 2 emissions and the reported turnover show that these have declined per crore of rupees for the remaining six companies. However, only two companies (Adani Power and ATGL) have got these externally assured.

In answer to the question: *Does the entity have any project related to reducing Green House Gas emission? If*

Yes, then provide details (question 7), all the companies have provided detailed answers outlining their various efforts. For example, Adani Power mentioned seven such initiatives including: replacing fossil fuel-based vehicles by electric vehicles and optimisation of energy consumption in office buildings and NLC has mentioned the introduction of battery cars along with other major projects such as those for production of renewable energy (BRSR reports on NSE Website). The narrative analysis brings out the fact revealed by earlier studies (Baalouch et. al., 2019, Narolia & Sapra, 2023) that companies prefer to elaborate upon their positive initiatives.

Waste Generated, Recovered and Disposed

Except two companies (Coal India and IGL), all others have reported waste generated for current and previous years. In almost all cases, the absolute amount of waste generated has gone up (for CESC it is not possible to add up the different types of wates and get the amount of total waste from the given information). In case of Adani Power, OIL and Tata Power, it has more than doubled. Tata Power has mentioned that the increase in waste is due to addition of PPGCL.

None of the companies have reported the percentage of waste recovered through recycled/reused/other recovery operation. Adani Power, IOC, OIL and Tata Power have reported the absolute amounts.

In answer to *percentage of waste disposed through (i) Incineration, (ii) Landfilling, (iii) other recovery operations*, only CESC has reported that 100% of waste is disposed through above methods. Others have either not reported or reported the absolute amounts.

Waste Management Practices and Strategies to Reduce Hazardous Waste

Question 9 asks the companies to *briefly describe the waste management practices adopted in your establishments and also describe the strategy adopted by the company to reduce the usage of hazardous and toxic chemicals in your products and processes and the practices adopted to manage such wastes.* All nine companies have provided long narrative descriptions of their efforts in reducing waste especially hazardous waste though a careful reading of these show that many of them are only complying with the existing laws with regards to industrial waste.

Discussion

The analysis of answers by the companies and the language used by some of them show that compliance with the relevant laws more than any voluntary environmental consciousness is driving the companies to take steps to reduce GHG and other emissions, waste, water and energy intensity etc. For example, in answer to a specific question Is the entity compliant with the applicable environmental law/ regulations/ guidelines in India; such as the Water (Prevention and Control of Pollution) Act, Air (Prevention and Control of Pollution) Act, Environment protection act and rules thereunder and if not, give details of all such non-compliances in the given format (essential question 12 of Principle 6), all companies except OIL answered that they have complied with these laws. OIL gave details of two instances of non-compliance and action taken/resolution of the issue. Being large, these companies are subject to more public scrutiny than others and therefore cannot afford to be not complying with the law. We therefore conclude that the nature and quality of the EDD among the large energy sector companies in India at present seem to be more about legitimization (ticking the right boxes) than transparency.

Absence of Life Cycle Assessments and Steps Taken to Ensure Responsible Usage

A question whether the entity has conducted "Life Cycle Perspective / Assessments (LCA) for any of its products (for manufacturing industry) or for its services (for service industry)" and its percentage (Question 1 of the Leadership Indicators under Principle 2) goes unanswered by all nine companies.

Similarly, the question regarding Percentage of value chain partners (by value of business done with such partners) that were assessed for environmental impacts (question 9 of the

leadership indicators under Principle 6) goes either unanswered or 'Nil' is the answer.

A related question about Steps taken to inform and educate consumers about safe and responsible usage of products and/or services (Question 2 of the Leadership Indicators under Principle 9) is however answered by five companies. Adani Power, CESC and OIL have not answered this question while NLC has mentioned that since they are not distributing their product (electricity) directly to consumers, it does not apply to them.

Leadership Indicators for Principle 2 Not Reported by the Majority

There are four questions under the Leadership Indicators for Principle 2 which were optional. These related to:

1. the Life Cycle Assessment (LCA) perspective of its products;

2. any social or environmental risk/concern arising from the production or disposal of products identified under the LCA and action taken for its mitigation;

3. Percentage of recycled or reused input material to total material (by value) used in production (for manufacturing industry) or providing services (for service industry);

4. of the products and packaging reclaimed at end of life of products, amount (in metric tonnes) of hazardous waste reused, recycled, and safely disposed.

Five of the nine companies (Adani Power, ATGL, Coal India, OIL and Tata Power) chose not to report on any of the above four questions.

None of the Companies Reported Having Conducted LCA

In response to question 2, only IOC mentioned that it refines and sells petroleum products which are acknowledged to be near the epicenter of climate change and that it is undertaking various efforts such as energy efficiency, fuel replacement, renewable energy, carbon capture and storage as well as emission offset through tree plantation to mitigate these. The company also reported that it supplies polymer raw material and there is widespread concern regarding the disposability and environmental impact of plastics (made from polymers) and that it has been making efforts to establish networks and partnerships to ensure responsible usage and safe disposal of polymers.

Percentage of Recycled or Reused Materials

Question 3 goes unreported by all the companies. CESC mentioned that they do not have any division that uses recycled products as inputs while IGL mentioned that this data is not maintained at present and would be provided in subsequent years.

For question 4, even the four companies that chose to report wrote that they do not maintain data for this. While one company (CESC) reported that it has no division that uses recycled products as inputs, the other three (IGL, IOC, NLC) made a general statement that they dispose of all waste/hazardous waste safely.

Questions under Leadership Indicators of Principle 6

There are nine questions under the optional category of leadership indicators. Adani Power, ATGL, CESC and OIL chose not to answer any of these questions. The responses of the other companies to the questions relevant to our study are analysed below:

Only Coal India, IOC and NLC has reported on and provided Total energy consumed (in Joules or multiples) from renewable and non-renewable sources (question 1) and Details related to water discharged (question 2).

Total Scope 3 emissions & its intensity (question 4) was reported only by Tata Power and IOC while NLC mentioned that they have started compiling this data. However, none of the companies had any independent assessment/ evaluation/assurance been carried out by an external agency.

The qualitative question about any specific initiatives or innovative technology or solutions to improve resource efficiency, or reduce impact due to emissions/effluent discharge/waste generated, undertaken by the company (question 6), was answered by only four companies. While

IOC provided details of different initiatives undertaken by it and their outcomes in details, NLC and Tata Power provided brief accounts of their efforts. Coal India Limited gave details about its (mostly in the pipeline) projects and little about outcomes.

Tata Power, NLC, IOC and IGL are the only companies reporting about the company having a business continuity and disaster management plan (question 7).

IOC and NLC are the only two companies disclosing any significant adverse impact to the environment, arising from the value chain of the entity [and] mitigation or adaptation measures [that] have been taken by the entity in this regard (question 8).

None of the companies answered question 9 which asked Percentage of value chain partners (by value of business done with such partners) that were assessed for environmental impacts.

Conclusion

Previous studies have shown that in the absence of regulation, companies voluntarily report only on the positive aspects (achievements) and remain silent about their negative impacts. Given this, mandating BRSR for large companies seem to be a step in the right direction. Our analysis shows that with specific questions being asked under BRSR, though the companies are more forthcoming with the information where they have done well e.g. energy intensity, water intensity, Scope 1 and Scope 2 emissions which have declined for most, they are also forced to report aspects such as waste generated which has increased for most.

Qualitative questions such as efforts by the entity to reduce GHG emissions (question 7 under essential indicators of principle 6) and efforts to improve resource efficiency, or reduce impact due to emissions/effluent discharge/ waste generated, undertaken by the company (question 6 under leadership indicators of principle 6) were answered in detail. However, outcome-based questions such as the percentage of inputs sourced sustainably or the percentage of R & D and Capex expenditure spent on improving environmental impact as well as the percentage of materials reused and recycled go unanswered or answered vaguely.

A Yes/No question does not elicit a meaningful response since what the company understands by a question may be very different from what the intention of the policymaker is while framing the question because as our research shows, even a well-worded question seems to have been misunderstood by most of the companies (see p. 10).

Recommendations and Policy Implications

Since oil and gas combustion generates air emissions, including greenhouse gases (GHGs) which are the main contributor to climate change, reporting of its environmental impact must include its Scope 3 GHG emissions and LCA. The GHGs released by extracting, refining, and burning oil and gas constitute the largest contribution to anthropogenic climate change and taken together, it amounts to 55% of all energy related GHG emissions. Action taken by the oil and gas sector is therefore essential to the transition to a low-carbon economy. GRI has therefore specified separate Sectoral Standards for this sector (GRI 11 – Oil and Gas Sector). This study, therefore, recommended that in order to bring about more transparency and accountability, some of the optional questions (given under leadership indicators) should be mandated in the case of environmentally sensitive companies such as those in the oil and coal sector, if not for all companies. The policymakers may also consider mandating the external assurance/audit of the EDD and the assuring agency be asked to qualify the report if in answer to questions asking for specific information on emissions and targets, general and vague statements are reported.

It remains to be seen how the Indian companies respond to the mandatory filing of BRSR for the FY 2022-23. There is scope for immense research in the future once these are filed and some of these can specifically look at EDD in

specific sectors taking a lead from the present study.

Conflict of interests

No conflict of interest.

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