An Analysis on Business Responsibility and Sustainability Reporting on Companies in India

Black Gold in the Barrel Green Futures Beyond

BRSR (Business Responsibility and Sustainability Reporting) is India's SEBI-mandated ESG framework ensuring standardized, transparent, and accountable corporate sustainability disclosures. This framework is used to analyse the Oil and Gas Extraction Subsector in India and create parameters and benchmarks for analysis.

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Foreword

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The growing emphasis on corporate responsibility has put sustainability reporting into the spotlight, with newer regulations changing the reporting landscape following the publications of Elkington, Porter, Kramer and more **1–4**. Companies now publish regular reports on financial performance and non-financial metrics due to the increased focus on operational ethics and the company's values to fulfil regulatory obligations and stakeholder requirements **1,2,5**.

As stakeholder capitalism becomes mainstream, businesses face rising expectations—not just from shareholders but also consumers, communities, and employees—in addressing sustainability challenges and externalities such as climate change, diversity, and ethics, which now impact enterprise value **2**. This has also led to sustainability reporting being a manager's duty to disclose all relevant information and material risks in investment analysis and decision-making **2**.

This is particularly evident in India, where the Securities and Exchange Board of India (SEBI) has introduced the Business Responsibility and Sustainability Reporting (BRSR) framework to standardise ESG disclosures and provide stakeholders with comparable information **5**. It is a notable difference from earlier frameworks such as Business Responsibility Reporting (BRR) or Corporate Sustainability Reporting (CSR) due to its focus on standardisation and regularisation of reporting between companies. Its alignment with NGRBC and its approach to determining future activities, not just analysing past disclosure data **5**.

With such ambitious objectives, BRSR makes India a leader and forerunner in sustainability reporting, and it has already been implemented among the top 1000 companies in market capitalisation in India **5**. However, while there exists a standardised approach to the analysis given by BRSR and mandated among the top 1000 companies, there are difficulties in unifying the metrics for analysis, for the reports are discrete in nature with complex structures and subjective information. The issue of no benchmarks being available to be used as a frame of reference also makes it lose its purpose.

This report thus intends to analyse and compare companies with the disclosed data from NSE and create benchmarks and more intuitive metrics of comparison between companies, with the specific materiality issues considered in making parameters and benchmarks for comparative analysis. However, with the companies in the Indian Market having different offerings and natures, this report focuses on oil and gas onshore and offshore production and extraction activities.

Through this analysis, the report aims to offer insights into industry trends, best practices, and areas for improvement. By aligning with the BRSR framework, this study aims to contribute to the discussion on corporate sustainability, regulatory compliance, and responsible energy production for more progress towards a better future.

Executive Summary

Sustainability reporting involves disclosure of a company's activities (economic, environmental, and social) and impact. Unlike financial reporting, it shares the material risks of the company that a stakeholder, a consumer or an employee might be interested in. Many frameworks, such as the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-related Financial Disclosures (TCFD), have arisen with the increased interest in Sustainability Reporting.

In India, the Business Responsibility and Sustainability Reporting (BRSR) framework, introduced by the Securities and Exchange Board of India (SEBI), is a significant shift compared to CSR and BRR Reports. The BRSR framework replaces the previous Business Responsibility Report (BRR) and is now mandatory for the top 1,000 listed companies in India. It requires businesses to report on key ESG aspects, such as emissions, employee welfare, gender ratios, risk management, etc.

Sustainability reporting is necessary for the oil and gas sector, as it is one of the largest contributors to greenhouse gas (GHG) emissions, environmental degradation, and social challenges. At the same time, it plays an important role in a country's economy and energy security, mainly its standing. But as countries move towards a low-carbon future, companies must align their strategies with national and global sustainability goals. The oil and gas sector is one of the largest contributors to global carbon emissions. Companies report Scope 1 (direct) and Scope 2 (indirect) emissions, but Scope 3 emissions, which include supply chain and product use emissions, remain largely unaccounted for.

Oil refining and drilling operations also require significant water usage, giving rise to many risks in water-scarce regions. While some companies have zero-liquid discharge (ZLD) policies, application and compliance is inconsistent. The sector also needs to process hazardous waste, including oil sludge and drilling waste, therefore requiring proper disposal efforts to prevent pollution.

Given the high-risk nature of the oil and gas sector, occupational health and safety (OHS) is another materiality topic. Many companies report high LTIFR, with there being no records of safety incidents in a few companies painting a bleak picture. Employee welfare, including health insurance and financial security, thus becomes very important for employees and workers, especially to support their loved ones.

With the need to analyse the various companies in the sector, the report therefore chooses five companies with the BRSR data for comparision and create benchmarks alongside more intuitive derived metrics of comparison between companies, to capture insights on industry trends, best practices, and areas for improvement, for a better well-rounded understanding of the oil and gas extraction subsector.

Introduction to Sustainability Reporting

Sustainability reporting involves a company disclosing its activities' economic, environmental, and social impacts **5,6**. It is different from traditional financial reporting practices as it considers a company's broader impact on stakeholders and the planet **5**. Sustainability reporting aims to demonstrate a company's contribution to sustainable development by showing the fair acquisition and utilisation of resources to support diverse life on Earth within habitable ranges **7**. Due to this, sustainability reporting requires accountability and transparency regarding what the company achieves through its implemented actions and their materiality risks related to the depletion of financial capital, economic, intellectual capital, and sustainability capital **5,7,8**.

The theoretical foundations of sustainability reporting are grounded in frameworks like Elkington's Triple Bottom Line, which argues that businesses must balance financial performance with environmental and social impact with an approach that measures the 3Ps: people, planet, and profit **3**. While early sustainability reporting mainly focused on corporate social responsibility (CSR) initiatives, contemporary practices focus on quantifiable ESG (Environmental, Social, and Governance) metrics that help investors, regulators, and the public evaluate a company's long-term viability. When comparing the Brundtland Commission's definition of sustainable development with the recent improvements of newer frameworks such as GRI SASB, sustainability reporting has changed by broadening its scope beyond just environmental issues into other materiality topics **7**. While there are many frameworks such as GRI, SASB used all around the world, this report will use the BRSR framework due to its contexts with Indian Companies.

Business Responsibility and Sustainability Reporting (BRSR) is a framework introduced in India to enhance the scope and transparency of listed entities' non-financial disclosures. The BRSR format, as per the SEBI Circular, is detailed in Annexure – I and is directly aligned with the NGRBC discussed under Section 1.5 of Module 1 **5**. The NGRBC principles (1 to 9) form the basis for the Principle-wise Performance Disclosure in Section C of the BRSR, making sure that companies address sustainability aspects considered important within the Indian national context **5**. It is also mandated by the Securities and Exchange Board of India (SEBI) for listed entities in India and the revised BRSR format was introduced by SEBI Circular No. SEBI/HO/CFD/CMD-2/P/CIR/2021/562 **5**. Thus, it makes BRSR a framework for these companies to comply with Indian law if continuing to operate on Indian soil.

BRSR's more straightforward format can be easier to implement and maintain for companies still building their sustainability reporting processes. It provides a clear picture of the company's performance on key sustainability issues and is well-aligned with the expectations of Indian investors, regulators, and customers. **5**. The structure of the new format has three sections and a Lite version for non-listed and smaller companies, for ease of adoption **5**. It also focuses on primary material topics such as the scope of GHG Emissions, waste management practices, gender diversity, economic performance, labour practices, privacy and security for customers and more.

Rationale for Choice of Sector

Oil and gas have been important for global economic growth and development for over a century and are still used to meet more than half of the world's primary energy needs. But unlike other countries, IEA reports that India's production stands at just 12.4% of the total crude oil supply and 54.7% of the total gas supply, with the rest sourced from imports in 2022, making it impossible to support the fifth-largest economy with more than 1Bn people without imports **9,10**.

Meanwhile, India has seen a surge in petroleum product exports over the last decade. The country's refining capacity, now exceeding 250 million metric tonnes per annum (MMTPA), has enabled it to serve global markets **11**. Also, the government's emphasis on Special Economic Zones (SEZs) for refineries and with exports contributing to foreign exchange reserves, India has emerged as a global player in the energy market **11**.

Oil is also essential outside transportation, being the basis for many products, like petrochemicals, plastics, chemicals, and pharmaceuticals. On the other hand, natural gas is used for electricity generation and heating, and its lesser emissions make it a transitional fuel toward cleaner energy sources. These reasons make them key resources, with many powers competing over the access and profits generated from sales.

Finally, the primary reason for selecting this sector is to acknowledge the impact of the Exxon Valdez oil spill, which released eleven million gallons of crude oil off the coast of Alaska **1**. This disaster led to increased stakeholder demand for greater transparency in corporate operations, leading to modern sustainability reporting **1**.

But while the Exxon Valdez spill was related to transportation, this report will focus on production-related sustainability challenges in the sector as they pose some of the greatest risks—from reservoir depletion and water usage to emissions and land impact—making it a necessity to evaluate how sustainability measures are integrated at the extraction stage.

Photograph of the EXXON VALDEZ oil spill| Chris Wilkins, AFP/Getty Images

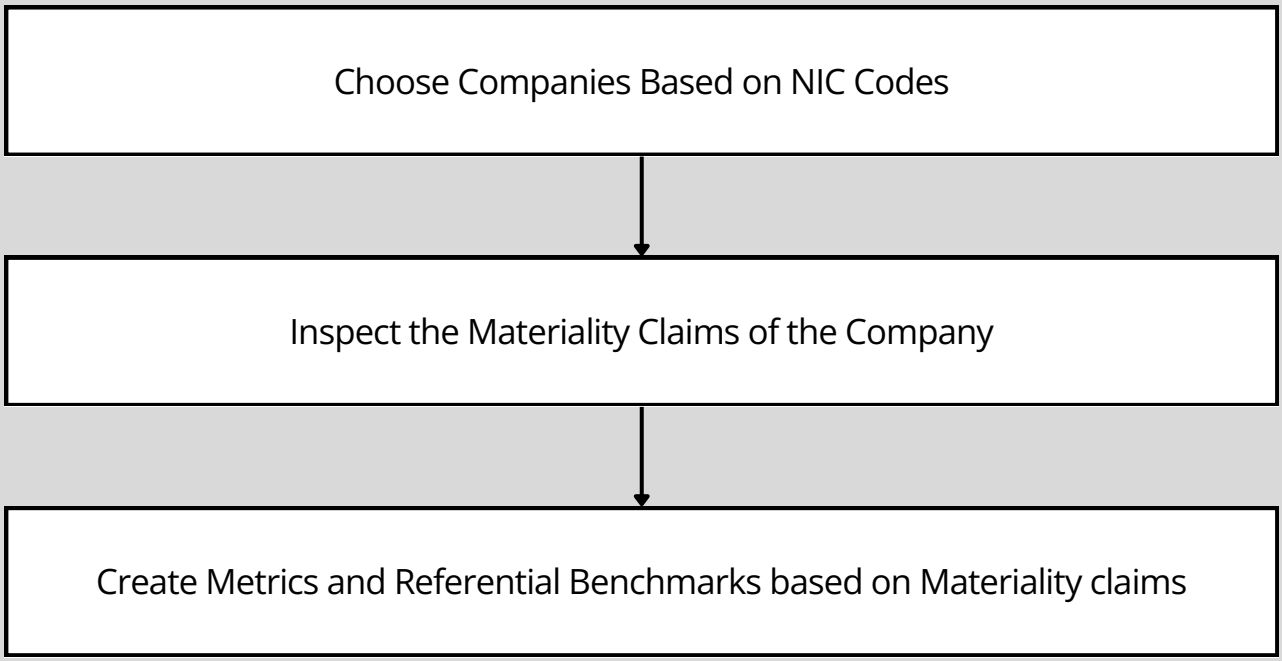
Methodology

The analysis focuses on companies listed on the NSE and under the NIC Codes 061 and 062, covering onshore and offshore oil and gas production. The objective is to analyse the BRSR data, create benchmarks and metrics for companies operating in the same sector.

Data is collected from publicly available sources, including company annual reports, sustainability disclosures, NSE filings, and government publications. This information is verified with credible reports and frameworks. The study uses both quantitative data and qualitative information for understanding the sector parameters and creating benchmarks.

Materiality reports are then analysed, with the major themes being chosen for the point of analysis. and benchmarks and parameters developed with the most commonly occuring materiality themes prevalent in the industry making them realistic and relevant.

The reports contains key metrics for each company, useful for a comparative analysis to determine how each company measures up each other and against the benchmarks. Visual tools are used in displaying analyses in a more concise way.



Analysis of Companies

The following companies were selected as they are listed on the NSE and come under the NIC Codes 061 and 062, covering onshore and offshore oil and gas production.

Reliance Industries Limited

L17110MH1973PLC019786

Reliance Industries Limited (RIL) is one of India's largest companies. Founded in 1973 and headquartered in Mumbai, it is listed on the NSE and BSE under the symbol RELIANCE. The Oil to Chemicals (O2C) division is its largest segment, followed by Oil & Gas Exploration and Production (E&P). The company also has a major presence in consumer businesses like Jio and Reliance Retail. Reliance operates 14 plants and 57 offices in India, with exports to 111 countries.

For FY 2023-24, RIL reported ₹5,74,956 crore in revenue and has 38,244 employees. It has committed to net-zero carbon emissions by 2035, investing in renewable energy and sustainability initiatives. Its BRSR disclosures highlight compliance with SEBI regulations and focus on ESG performance.

Oil and Natural Gas Corporation Limited

L74899DL1993GOI054155

Oil and Natural Gas Corporation Limited (ONGC) is India's largest oil and gas exploration and production company. Established in 1993, it is a public sector undertaking (PSU) under the Ministry of Petroleum and Natural Gas. Headquartered in New Delhi, ONGC is listed on NSE and BSE under the symbol ONGC. The company's primary operations include crude oil production and natural gas production. ONGC has 17 plants and 19 offices across 11 states in India. The company exports 4.33% of its total turnover, with its major customers being Indian Oil Marketing Companies (OMCs) such as IOCL, BPCL, and HPCL.

In FY 2023-24, ONGC reported a turnover of ₹1,38,402.13 crore and a net worth of ₹3,05,976.51 crore. The workforce consists of 15,804 employees. The company is actively working towards net-zero emissions by 2038, focusing on renewable energy, methane emission reduction, and carbon capture projects. Its BRSR report outlines compliance with SEBI's ESG disclosure norms and sustainability commitments.

Oil Industries Limited

L11101AS1959GOI001148

Oil India Limited (OIL) is a Maharatna PSU under the Ministry of Petroleum and Natural Gas, engaged in oil and gas exploration and production. Established in 1959, it is headquartered in Duliajan, Assam, and listed on NSE and BSE under OIL. OIL's core business includes crude oil (72.86% of revenue), natural gas (23.45%), and LPG (0.77%), contributing 97.08% of total revenue. It operates 173 plants and 12 offices across 6 states. Major customers include PSUs and state electricity boards.

For FY 2023-24, OIL reported a turnover of ₹22,129.79 crore and a net worth of ₹35,449.32 crore. It has 6,777 employees, with 13.2% female representation. OIL targets net-zero emissions by 2040, focusing on renewable energy and carbon capture.

Hindustan Oil Exploration Company Ltd

L11100GJ1996PLC029880

Hindustan Oil Exploration Company Limited (HOEC) is an independent oil and gas exploration and production company in India. Incorporated in 1983, it is headquartered in Chennai, Tamil Nadu, with its registered office in Vadodara, Gujarat. The company is listed on NSE and BSE under the symbol HINDOILEXP. HOEC is engaged in the exploration, development, and production of crude petroleum and natural gas, with 100% of its revenue derived from these activities. The company operates eight plants and three offices across four states in India. Unlike larger public sector oil companies, HOEC primarily serves industrial buyers rather than retail consumers.

For FY 2023-24, HOEC reported a paid-up capital of ₹132.25 crore. It has a workforce of 297 employees, with 3.03% female representation. The company emphasizes sustainable operations and regulatory compliance, as reflected in its BRSR disclosures.

Deep Industries

L14292GJ2006PLC049371

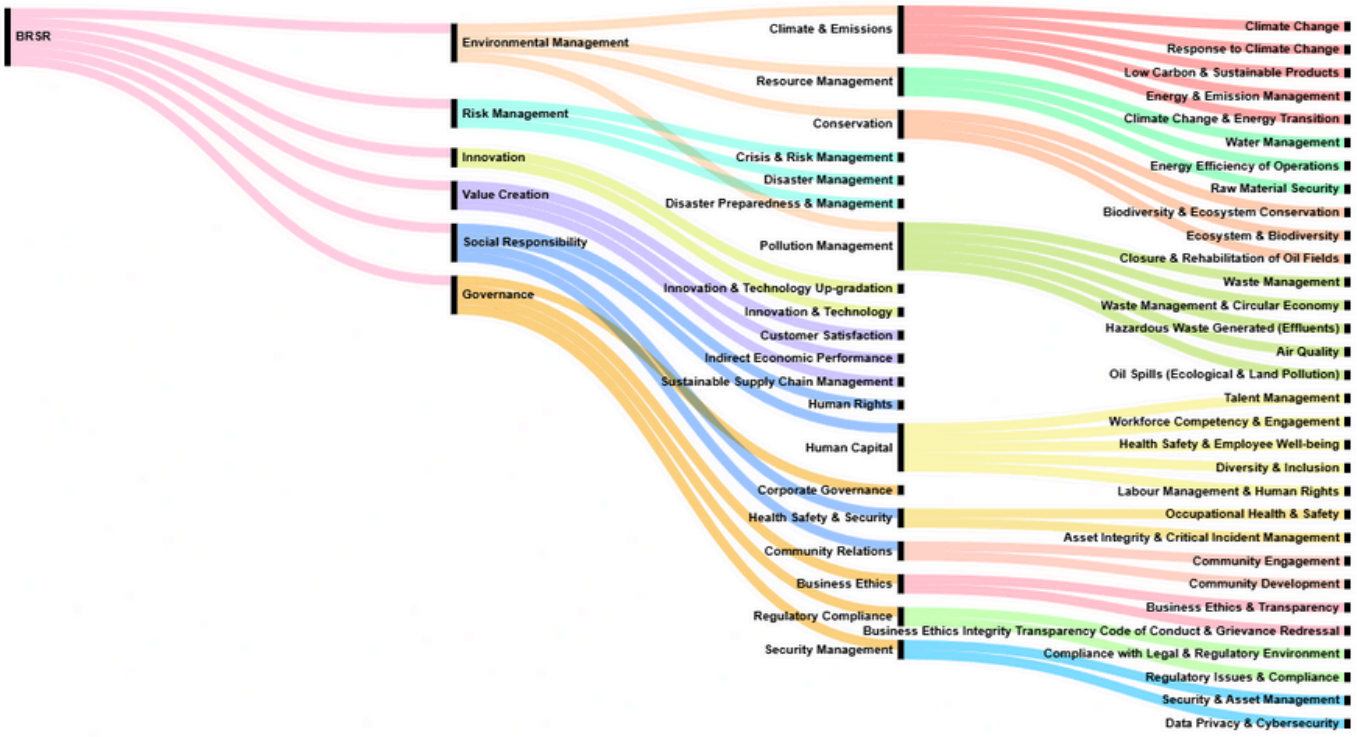
Deep Industries Limited is an Indian company engaged in oil and gas field services, specializing in natural gas compression, workover and drilling rig services, and integrated project management. Incorporated in 2006, it is headquartered in Ahmedabad, Gujarat, and listed on NSE and BSE under DEEPINDS. The company derives 49% of its revenue from natural gas compression, 37% from workover and drilling rig services, and 14% from integrated project management. It operates 42 plants and 3 offices across 8 states in India, primarily serving major oil and gas producers, PSUs, and multinational companies.

For FY 2023-24, Deep Industries reported a turnover of ₹381.90 crore and a net worth of ₹1,256.35 crore. The company has 1,636 employees and workers, with 18.93% female representation. It follows SEBI's BRSR framework for ESG disclosures, focusing on operational sustainability and compliance.

Materiality Issues of the Chosen Sector

Materiality in the context of BRSR, is the concept of identifying and focusing on the issues that are significant to a company's business and its stakeholders. For the oil and gas sector, the materiality issues are given below.

The oil and gas industry plays an important role in the global economy by supplying energy for various industries and consumers. However, it faces several materiality issues that present both risks and opportunities. These materiality topic are represented in the Sankey diagram focuses on the materiality issues of companies listed on the NSE and under the NIC Codes 061 and 062, covering onshore and offshore oil and gas production and have topics involving environment, risk, innovation, value creation, social responsibility and governance, gleaned from the reports (**12–16**).



Material issues that present themselves as risks or opportunities need to be identified. This involves classifying the risk or opportunity as environmental or social and providing a detailed description. For example, climate change risks can include impacts on operations, worker health, and demand for products or services, while opportunities can include cost savings via resource efficiency and the development of new products and services.

Climate Change and the Energy Transition

Physical Risks: Extreme Weather and Infrastructure Vulnerability

Oil and gas operations are highly vulnerable to extreme weather events caused by climate change. Changing temperatures and precipitation patterns can affect productivity, while climatic events such as cyclones or floods damage offshore and onshore infrastructure. Companies must therefore invest and spend higher costs on infrastructure, such as elevated offshore platforms, reinforced pipelines, and advanced monitoring systems to mitigate these risks .

For instance, Reliance Industries Limited (RIL) has been upgrading its assets to withstand extreme weather events. It has implemented weather-tracking technologies and reinforced its infrastructure to reduce climate-related disruptions. Additionally, Oil & Natural Gas Corporation Limited (ONGC) has been conducting risk assessments to identify vulnerable assets and implement climate adaptation strategies.

Regulatory Risks: Carbon Policies and Emission Targets

Governments worldwide are introducing stricter regulations to reduce carbon emissions through carbon pricing, cap-and-trade systems, and emissions reporting requirements, increasing compliance costs for oil and gas companies. The Paris Agreement has also set ambitious targets for global temperature control, leading to national commitments for phasing out fossil fuel subsidies and encouraging investment in renewables.

In India, the government has introduced initiatives like the Perform, Achieve, and Trade (PAT) scheme, aimed at reducing industrial energy consumption, and the Renewable Energy Purchase Obligation (RPO), which mandates companies to procure a certain percentage of power from renewable sources. Companies like Reliance Industries and Oil India Limited (OIL) are aligning their operations with these policies by expanding their renewable energy portfolios and adopting energy efficiency measures.

Transition Risks: Declining Fossil Fuel Demand and Market Shifts

As economies shift towards clean energy, demand for fossil fuels is set to decline. Electric vehicles (EVs), energy storage technologies, and hydrogen-based solutions are replacing conventional fuel sources. This becomes a transition risk for oil and gas companies that rely heavily on fossil fuel revenues. To address this, companies like Reliance have been diversifying their energy mix by investing in solar, wind, and biofuels. Reliance has set a Net Carbon Zero target for 2035, focusing on green hydrogen and carbon capture technologies. Similarly, ONGC has pledged to achieve Net Zero for Scope 1 and Scope 2 emissions by 2038 and is actively investing in energy efficiency programs and cleaner technologies.

Opportunities in Renewable Energy and Green Technologies

Despite these risks, the energy transition also presents significant opportunities for oil and gas companies to innovate and reposition themselves in the evolving energy market. Green hydrogen, biofuels, and carbon capture utilization and storage (CCUS) are emerging areas where traditional oil companies can leverage their expertise.

Oil India Limited, for example, has invested in green hydrogen production. Hydrogen is seen as a key fuel for decarbonisation, and efforts in this space could give an early advantage. Similarly, companies like ONGC and Reliance are exploring CCUS technologies to reduce emissions from their existing operations. These technologies allow them to continue fossil fuel production while reducing environmental impact

Environmental Risks: Waste, Water, and Biodiversity

Waste Management Risks: Hazardous Waste and Oil Spills

Oil and gas operations produce large quantities of hazardous waste, including drilling muds, untreated water, and sludge. Poor waste mgmt. can lead to soil, air pollution, and waterborne hazards, leading to regulatory penalties and reputational damage. Oil spills are a major environmental risk, destroying marine and coastal ecosystems. Cleanup costs are high, and companies can face legal action and loss of trust. For example, the Bombay High oil spill (2010) caused severe marine pollution in India and the Exxon Valdez oil spill are examples that led to costly cleanup operations and legal scrutiny.

Regulatory Challenges and Compliance Measures

Indian oil and gas companies must obey The Hazardous and Other Wastes Rules, 2016, for hazardous waste disposal. The Environment Protection Act of 1986 also mandates strict waste treatment and disposal standards compliance. Central Pollution Control Board (CPCB) guidelines require companies to report waste generation and adopt pollution control measures. Leading firms thus have implemented Zero Waste to Landfill policies, aiming to reduce waste by improved recycling and treatment technologies.

Water Management Risks: Pollution, Effluents and Overuse

Oil and gas operations require huge amounts of freshwater for drilling, refining, and cooling. This depletes local resources, impacting communities and agriculture. Additionally, produced water—containing heavy metals, hydrocarbons, and salts—is a severe risk to freshwater ecosystems if not treated properly. Several Indian refineries are also located in water-stressed regions, increasing competition for limited water resources, leading to investments in Desalination and Effluent treatment plants for treatment.

Effluent discharge from refineries can contaminate rivers and groundwater, leading to regulatory fines and environmental damage. The Water (Prevention and Control of Pollution) Act, 1974, mandates companies to treat industrial effluents before discharge. To mitigate risks, companies install zero liquid discharge (ZLD) systems, which recycle and reuse wastewater, reducing pollution.

Biodiversity Risks: Habitat Destruction and Ecosystem Disruption

Oil and gas exploration often occurs in ecologically sensitive regions, such as coastal areas, wetlands, and forests. Land clearance for drilling and pipeline construction leads to habitat destruction, affecting wildlife populations. Offshore drilling poses additional risks, such as oil spills, noise pollution, and marine ecosystem disruption.

Supply Chain and Raw Material Security

Geopolitical Risks and Trade Barriers

The global nature of the oil and gas industry makes it highly vulnerable to geopolitical risks. Trade restrictions, economic sanctions, and regional conflicts can impact crude oil imports and exports. For example, fluctuations in oil supply due to the Russia-Ukraine conflict or U.S.-Iran sanctions have directly affected crude prices and availability for Indian refiners.

India, highly dependent on crude oil imports, sources over 85% of its crude oil from foreign countries. Any supply chain disruptions can lead to supply shortages and price volatility, increasing operational costs for companies like IOC, ONGC, and BPCL. India has built Strategic Petroleum Reserves (SPR) to mitigate these risks to store emergency oil supplies. Companies like HPCL and BPCL are diversifying their supplier base to reduce reliance on specific countries.

Raw Material Price Volatility

Crude oil and natural gas prices fluctuate , impacting margins and profitability. For instance, the COVID-19 pandemic in 2020 led to a crash in oil prices due to reduced demand, severely affecting upstream companies. On the other hand, the post-pandemic economic recovery and the Russia-Ukraine conflict caused a surge in prices, increasing refining and transportation costs leading to companies opting for long-term contracts

Logistics and Transportation Risks

Transporting oil and gas also involves complex logistics across pipelines, shipping routes, rail, and road networks and disruptions due to congestion, leaks, delays, and infrastructure failures can impact supply chain efficiency. For example, the Suez Canal blockage in 2021 delayed shipments to India, affecting refinery schedules and increasing costs.

Safety, Preparedness, and Asset Management

Oil and gas facilities involve high-risk activities, including drilling, refining, and hazardous material transportation. Companies must comply with Occupational Health and Safety (OHS) standards to ensure safe working conditions. To mitigate risks, companies like Reliance Industries and ONGC enforce safety frameworks, conduct regular audits, and provide protective equipment. Automated systems and AI-driven predictive maintenance help detect hazards early, reducing incidents.

In the event of disasters or accidents, companies must have well-structured disaster management plans to minimize operational disruptions and environmental damage. Firms like BPCL and Indian Oil conduct regular mock drills and maintain emergency response units.

Technological Advancements and Corporate Governance

Due to the recent developments in AI and related domains, companies are integrating advanced digital technologies to improve efficiency, reduce emissions, and transition towards cleaner energy. At the same time, ethical business practices and transparent governance frameworks help maintain regulatory compliance and investor confidence.

For example, RIL invests heavily in research and development to improve process efficiency, reduce emissions, etc. Similarly, OIL has implemented waste-to-energy projects and is investing in low-carbon technology.

Domains selected based on Materiality Analysis

Based on the materiality issues and overarching themes recurring in the BRSR reports of companies selected for the analysis, the themes of Energy Environment and Risk to Human Life are chosen and each theme has five parameters, each useful in analysing and comparing companies based on BRSR Reports.

While most companies reported most of the values, including leadership indicators, for example, Deep Industries did not report values for LTIFR and Related Safety Data. This would be considered a limitation of the study due to companies not conducting LCA and Security Tests, making them unsustainable.

Parameters reported by Companies	DEEPIND		HOECL		ONGC		OIL		RIL	
% of Renewable Energy	✓	1.00	✓	1.00	✓	1.00	✓	1.00	✓	1.00
% of R&D used for Sustainable Technology	✗	0.00	✗	0.00	✓	1.00	✓	1.00	✓	1.00
% of Capex used for Sustainable Technology	✗	0.00	✗	0.00	✓	1.00	✓	1.00	✓	1.00
Total Scope 1 and Scope 2 Emissions	✓	1.00	✓	1.00	✓	1.00	✓	1.00	✓	1.00
% of Water Treated	✓	1.00	✓	1.00	✓	1.00	✓	1.00	✓	1.00
% Of Product-wise Turnover with LCA Perspective	✗	0.00	✗	0.00	✓	1.00	✓	1.00	✓	1.00
HealthInsuranceofEmployeesandWorkers	✓	1.00	✓	1.00	✓	1.00	✓	1.00	✓	1.00
PF + Gratuity	✓	1.00	✓	1.00	✓	1.00	✓	1.00	✓	1.00
LTIFR Aggregation	✗	0.00	✓	1.00	✓	1.00	✓	1.00	✓	1.00

Energy and Sustainability

Benchmark Metrics and Parameters

Parameter	Unit	DEEPIND	HOECL	ONGC	OIL	RIL	Benchmark
% of Renewable Energy	%	1.19%	0.45%	0.25%	0.01%	1.47%	50% of total energy consumption from renewables by 2030 (aligned with global energy transition goals).
% of R&D used for Sustainable Technology	%	-	-	100%	100%	54%	Minimum 50% of R&D spending directed towards low-carbon and sustainable technologies by 2030.
% of Capex used for Sustainable Technology	%	-	-	100%	31%	46%	At least 30-50% of total Capex dedicated to sustainable investments by 2030, in line with net-zero pathways.

Interlinked SDG Goals

Interlinked BRSR Principles

Principle 2: Businesses should provide goods and services in a manner that is sustainable and safe
Principle 6: Businesses should respect and make efforts to protect and restore the environment.

Transitioning to renewable energy is crucial for reducing greenhouse gas emissions and combating climate change. Major oil and gas companies are integrating renewable energy into their operations, ensuring long-term business viability. Companies like BP and TotalEnergies have set ambitious renewable energy targets, with significant investments already underway.

In the Indian context, Reliance Industries is making substantial investments in renewable energy, committing ₹75,000 crore to renewables, including green hydrogen, solar photovoltaic (PV), and battery storage projects. This underscores its ambition to dominate both domestic and international markets.

Achieving a 50% renewable energy consumption benchmark by 2030 would reduce exposure to fossil fuel volatility, making it a worthy move.

Investing in R%D and Sustainable Capital Expenditure not only improves the chances of renewable energy but also positions the companies as fore runners.

R&D and Capex investment already have companies such as ONGC and OIL at 100% but is necessary companies to catch up. Thus targets are set to 50% and 30% for R&D and Capital Expenditure in Renewable Technology for Oil and Gas.

One thing to not is the limited information among companies R&D. This signifies not enough investment in R&D and Capex in General.

Environment

Benchmark Metrics and Parameters

Environment - Parameter	Unit	DEEPIND	HOECL	ONGC	OIL	RIL	Benchmark
Total Scope 1 and Scope 2 Emissions	MT	48488968	3103	9363199	1432577	37682039	50% reduction in absolute emissions by 2030 compared to 2019 levels (following IEA and SBTi recommendations).
% of Water Treated	%	100%	94%	100%	0%	100%	100% wastewater treatment for all operations, with at least 80% water reuse by 2030.
% Of Product-wise Turnover with LCA Perspective	%	-	-	99%	89%	83%	100% of products assessed with an LCA perspective by 2035, ensuring sustainability throughout the value chain.

Interlinked SDG Goals

Interlinked BRSR Principles

Principle 2: Businesses should provide goods and services in a manner that is sustainable and safe
Principle 6: Businesses should respect and make efforts to protect and restore the environment.

Reducing Scope 1 and Scope 2 emissions is crucial for oil and gas companies to mitigate climate change and comply with international agreements. While companies already aim for 15-20% reduction in emissions, the International Energy Agency and the Science-Based Targets initiative recommend a 50% reduction in absolute emissions by 2030. This benchmark can be achieved by implementing energy efficiency measures, transitioning to renewable energy sources, and investing in technologies like carbon capture and storage (CCS).

It is also imperative to maintain not just our atmosphere but also the lithosphere and the hydrosphere. With the systems all linked together it is necessary to eliminate or reduce any pollution if possible. Oil and gas operations produce large quantities of hazardous waste, including drilling muds, untreated water, and sludge. Oil spills are also major environmental risks, destroying marine and coastal ecosystems. This makes it necessary to screen out all possible avenues of water poillution making it imperative that all water is to be treated before discharge.

Life Cycle Assessment (LCA) is a method used to evaluate the environmental impacts of a product throughout its entire life—from raw material extraction to disposal. By assessing each stage, companies can identify areas to reduce negative environmental effects. LCA provides detailed insights into which stages of a product's life cycle have the most significant environmental impacts. With this information, companies can make informed decisions to improve product design, select more sustainable materials, and optimize manufacturing processes to reduce environmental harm.

Through this exercise of understanding environmental parameters, we see that many companies already have reduced emission costs of 1-2% from 2022-23. It is also to be noted that Many companies already treat their water well and ONGC already conducts and understands almost 100% of the product lifecycle emissions.

Risk of Injury and Loss of Life

Benchmark Metrics and Parameters

Risk - Parameter	Unit	DEEPIND	HOECL	ONGC	OIL	RIL	Benchmark
Health Insurance Coverage	%	100%	100%	100%	100%	100%	100% Insurance of all Workers and Employees is a necessity
PF & Gratuity Coverage	%	90%	3.15%	100%	100%	100%	100% Coverage of PF + Gratuity is a must.
LTIFRWorker + LTIFREmployee) / 2	MillionPersonHours	0.1	-	0	0.245	0.079	Achieve a Lost Time Injury Frequency Rate (LTIFR) of ≤ 0.05 per million person-hours.

Interlinked SDG Goals

Interlinked BRSR Principles

Principle 1: Businesses should conduct and govern themselves with integrity in a manner that is Ethical, Transparent and Accountable.
Principle 2: Businesses should provide goods and services in a manner that is sustainable and safe.
Principle 3: Businesses should respect the well-being of all Employees.

Loss of Life or Near-fatal injuries are to be considered and every human being is important.. Life is unpredictable, and the sudden loss of a family member can bring emotional and financial challenges. To safeguard loved ones from financial hardship after such a loss, financial instruments like life insurance, provident funds, and gratuity play a crucial role.

Access to health insurance and benefits such as provident funds and gratuity helps in timely medical care and helps support loved ones even after death, leading to lesser mental pressures and concerns for workers and employees, and can also encourage less absenteeism and higher productivity, as employees are more likely to seek preventive care and manage chronic conditions effectively. Ensuring 100% coverage for these benefits not only complies with labor laws but also enhances employee satisfaction and retention. Companies that offer comprehensive benefits packages are often recognized for their commitment to employee welfare.

LTIFR's inclusion on the other hand aimed to focus on the productivity lost due to injuries. The LTIFR measures the number of lost time injuries occurring per million person-hours worked, serving as a critical indicator of workplace safety. Aggregating LTIFR data for both employees and workers gives a better view of an organization's safety performance across all job roles, as weighting employees and workers equally might lead to employee benefits or worker benefits eclipsing each other due to differences in number. This is also done to show the differences in risks in a better way.

Industry averages for LTIFR can vary significantly. For instance, the International Marine Contractors Association (IMCA) reports an LTIFR of 1.07 for 2023. Similarly, the steel industry has an LTIFR of 0.76 in 2023, up from 0.65 the previous year. In comparison, an LTIFR of ≤ 0.05 represents a very lower rate of incidents, making the organisation among the top performers in safety standards.

Conclusion

This report, made using the Business Responsibility and Sustainability Reporting (BRSR) framework, helps compare and analyse companies in the Indian Market. Its indicators and simple layout structure have helped India move beyond CSR and BRR structures for ESG reporting, making India a leader in sustainability reporting.

While this framework helps in capturing the multitude materiality issues in the industry and helps in comparision, there are still miles to cover in standardisation alonside a desperate need for better aggregation and information dispersion in the reporting framework. Additionally it is not a one-size-fits-all system, with there being a lot of materiality issues to cover and similarly more parameters to analyse.

The oil and gas sector, being a resource-intensive and high-emission industry, is one of the most scrutinised areas in sustainability discussions with many of the recent Conference of Parties revolving around it. This study focused on the material risks and sustainability practices of companies within this sector and, through this, identified several key risks and opportunities that directly impact the industry's sustainability. The analysis of companies listed on the NSE under NIC Codes 061 and 062 showed how different firms respond to regulatory expectations and evolving sustainability challenges even within the same niche.

Climate change is a key challenge with two independent pressures egging for change—on one hand, extreme weather events threaten infrastructure and supply chains; on the other, global carbon policies are shifting demand away from fossil fuels. Companies have committed to sustainability targets. However, the transition is still in its early stages, with fossil fuels remaining their dominant revenue source.

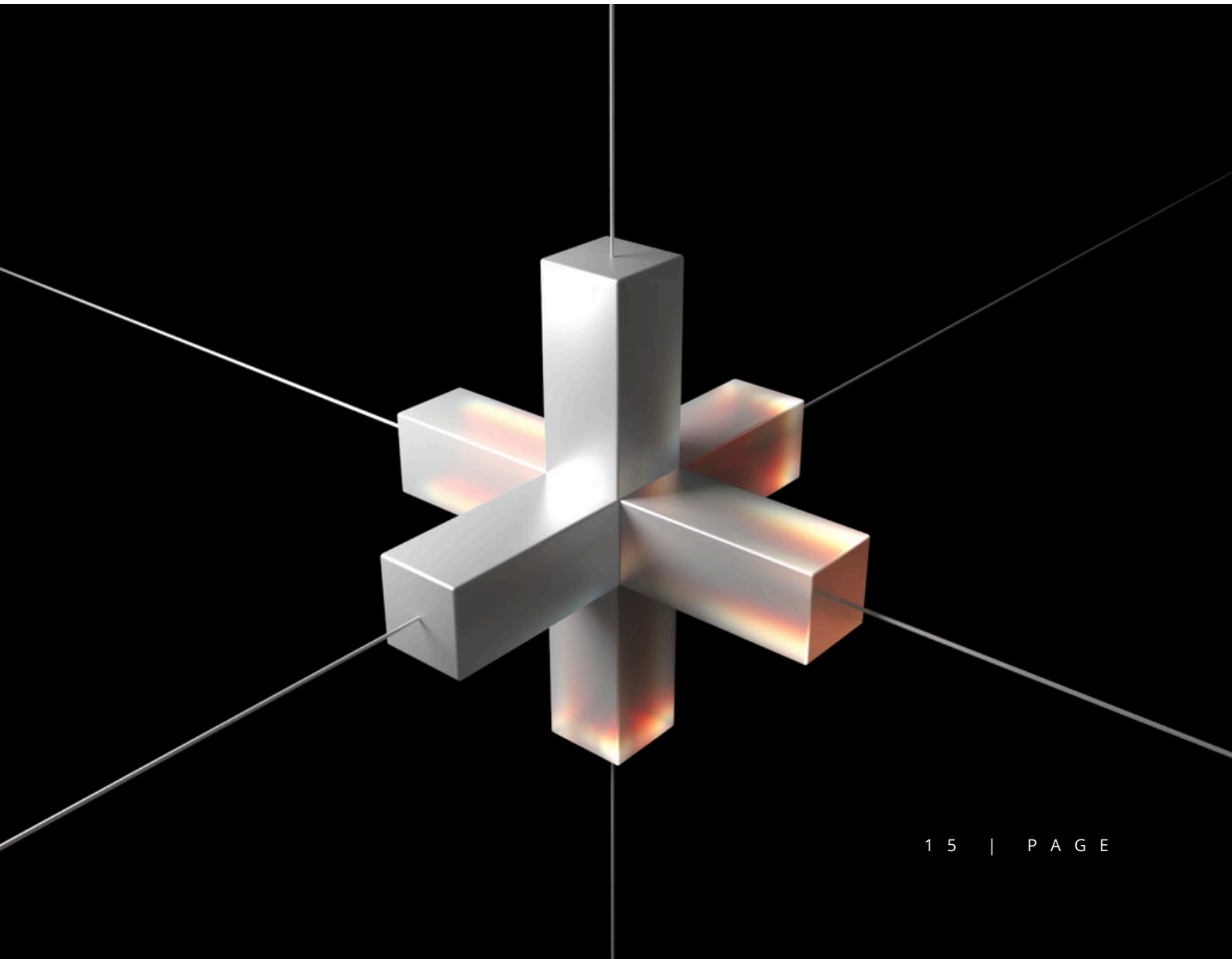
A major point of concern is India's reliance on imports, with over 85% of crude oil and 45% of natural gas sourced from foreign suppliers. This creates geopolitical vulnerabilities, as seen in volatility in crude prices due to conflicts like the Russia-Ukraine war, leading to many countries and companies have started moving away from fossil fuels, even further than ever in the last 5 decades.

The environmental impact of oil and gas production is very high, with emissions, waste, and water-intensive processes being major risks. Companies have made progress in Scope 1 and Scope 2 emissions reductions, but Scope 3 emissions remain underreported, limiting the framework's effectiveness.

This report only shows a microcosm of the broader sustainability challenges faced by a variety of Indian industries, from textiles and FMCG to IT and Finance. While many companies have started cleaning up their energy sources, there is a lot of ground to cover with more developments to see. As sustainability reporting continues to evolve and grow, it holds great potential to positively impact our lives and the planet.

Declaration on AI Usage

In this report, Artificial Intelligence tools such as ChatGPT, NotebookLM and such have been used for supportive arguments and in digesting analysis easier. AI was used to assist in tasks such as summarisation, language structure, coding and data retrieval processing, and formatting. However, the core ideas and thought structure has been done using reports and documents such as BRSR reports without using AI, with the thoughts being completely original. AI was used in brainstorming and kickstarting ideation and writing process and was the tinder for this report. Notebook LM was used in retrieving information and understanding content. The materiality analysis was structured using insights coded with AI-written python codes in processing and analysing information.



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