HPCL-Mittal Energy Limited (HMEL)
TCFD Report

About this Report

After the International Sustainability Standard Board (ISSB) published its inaugural disclosure standards in June 2023, the disbandment of the Task Force on Climate-related Financial Disclosure (TCFD) was confirmed by the Financial Stability Board (FSB) in October 2023. This move signifies the full integration of the TCFD's four content pillars (Governance, Risk Management, Strategy, Metrics and Targets) and 11 recommendations into the ISSB's climate disclosure standard, known as IFRS S2 Climate-related disclosure (S2).

With the S2 disclosure standard coming into effect on January 1, 2024, HMEL remains committed to aligning its 2024 climate-related disclosure the with the comprehensive requirements of S2. HMEL has conducted a review of its disclosure approach, considering the incremental S2 requirements that surpass those outlined by TCFD, to ensure robust climate-related disclosures in the future. The data used in this report is as of 31st March 2024, unless otherwise stated. Climate change has been identified as a key material issue for HMEL and we strive to increase our transparency regarding climate-related disclosures. These disclosures have helped us identify the risks and impacts of climate change on our business and accordingly plan for our future.

Governance

HMEL has formed a Board Level sub-committee, Sustainability Committee, which is responsible for all environmental, social and governance (ESG) related matters relevant to the company, including identifying and mitigating climate change related risks and opportunities.

The Sustainability Committee comprises of three Board members including one promoter Director and one female independent director. The Sustainability Committee examines group-level sustainability frameworks, policies, norms, and recommendations. It conducts periodic reviews of sustainability policies in the global context and evolving statutory frameworks and monitors various aspects of sustainability performance such as ethical governance, environmental stewardship, site safety performance, water and energy use. The Committee supports and advises management on developing and revising policies and procedures along with suggesting sustainability related assessments and ratings that can be incorporated as per the industry best practices. It also makes recommendations to the Board regarding the adequacy of reporting on sustainability opportunities, risks and issues in the Sustainability Report and other public documents. The Committee reports to the Board of Directors on a bi-annual basis on key climate-related risks and opportunities. Integrating ESG considerations into decision-making processes at the Board level is pertinent to enhance our core value proposition to transition towards a cleaner and more resilient future.

At a corporate level, the Apex Committee comprising of the CEO&MD, CFO and COO, are responsible for overseeing the ESG strategy and ensuring compliance with national and international standards. Additionally, HMEL has formed a Sustainability and New Energy team with six members, who are

responsible for implementing the ESG strategy. The Sustainability and New Energy team, work towards strengthening HMEL's initiatives in clean energy solutions while placing emphasis on building an inclusive workplace environment. The Apex Committee and Sustainability and New Energy team report to the Sustainability Committee on a quarterly basis.

Strategy

HMEL undertook the exercise of identifying climate-related risks which will have an impact on its facilities and assets (Bathinda Refinery, Mundra Port) in the short and long term. Risks were classified as physical and transition risks basis the TCFD recommendations. These risks were identified using globally recognized databases as described below:

- **Acute Risk:** Think Hazard tool was used for assessing acute physical risks. It is a web-based tool developed and maintained by the Global Facility for Disaster Reduction and Recovery (GFDRR) and has been adopted into World Bank Operations Portal for core use in project planning. The tool provides an overview of the climate hazards that should be considered when designing and implementing projects to increase disaster and climate resilience for a specific place. The tool categorizes the probability that certain natural hazards will have an impact on project regions as extremely low, low, medium, and high. The information about the climate risk indicators was collected from the IPCC data (Data from intergovernmental panel on climate change), Climate portal (CCKP) published by World Bank Group and from academic studies. Global data on the climate's past, present, and future vulnerabilities and effects are available via the Climate Change Knowledge Portal (CCKP). Additionally, databases such as World Resource Institute (WRI) Water Risk Atlas, World Wildlife Fund (WWF) water risk filter were also considered to analyze geographical risks.
- **Chronic Risk:** Projections from CMIP climate model were considered for chronic risk analysis for the assets. It provides climate projections supporting climate science. Two warming scenarios were considered for analyzing the data for this category: RCP2.6 and RCP8.5.
- **Transition Risks[1]:** Task Force on Climate-related Financial Disclosures Report recommends using scenarios developed by the International Energy Agency (IEA) or Network for Greening the Financial System (NGFS). HMEL has considered near to Net Zero Emissions by 2050 Scenario (NZE)- and STEPS (Stated policy scenario) Scenario for evaluating transition risks.

In line with TCFD recommendations, HMEL has considered following scenarios to identify and understand present and future risks.

[1] Other Sources: https://www.oecd.org/tax/tax-policy/carbon-pricing-india.pdf
https://pib.gov.in/PressReleasePage.aspx?PRID=1705772
https://www.iea.org/policies/17006-national-policy-on-biofuels-2022-amendment
https://www.india.gov.in/spotlight/national-green-hydrogen-mission#:~:text=The%20National%20Green%20Hydrogen%20Mission,Green%20Hydrogen%20and%20its%20derivatives

	Physical Risk	Transition Risk
Scenario	IPCC's Representative Concentration Pathway • RCP 2.6 presents the "peak" scenario which means the radiative forcing level reaches 3.1 W/m2 by mid-century but returns to 2.6 W/m2 by 2100. RCP 2.6 scenario <2°C temperature (i.e., 1°C temperature) rise by the end of the century due to global efforts to reduce emissions. • RCP8.5 being extreme scenario represents business as-usual approach, 3.7°C temperature rise by the end of the century due to minimal to no effort to reduce emissions.	International Energy Agency's • The Net Zero Emissions by 2050 Scenario (NZE) is a normative IEA scenario that shows a pathway for the global energy sector to achieve near net zero CO_2 emissions by 2040, with advanced economies reaching net zero emissions in advance of others. • STEPS (Stated policy scenario) Scenario - Global temperature continue to rise. Temperature rise reaches 2°C by 2050 and 2.6°C by 2100
Time Horizon	Present day and 2050	Present day and 2050

Rationale	Impact	Mitigation
Type of Physical Risk: **Cyclone and Flooding**		
Coastal regions are the most vulnerable to cyclonic storms, high winds, and flash flooding. In June 2023, Cyclone Biparjoy made a landfall in Kutch district of Gujarat causing high rainfall and high wind speed in July this year. HMEL's Crude oil port at Mundra lies in Kutch district and is at risk. Time-horizon: short, medium and long term	• Fuel or power supply delays or interruptions. • Damage to roads, bridges, and rail crossings etc. • Movement restriction of key staff. • Impact on staff health and well-being • Damage to structural elements leading to operations shutdown. • Damage to Single Point mooring system (SPM) and its associated infrastructure. • Increased risk of an oil spill leading to damages. • Sinking of storage tanks and flooding of the internal plant drainage systems, increasing the risk of a fire threat. • Interruptions and delays to the delivery and distribution system. • Financial Impact: The financial implications will range from	• HMEL has Standard Operating Procedures and emergency plan in place. • Employees and workers are directed to stay inside the plant premise where accommodation, food and other facilities are made available. • To mitigate impact of power disruption, HMEL tops up crude oil tank at its Bhatinda refinery. The company is also looking at increasing its crude oil storage capacity at Bhatinda Plant. • Maintenance crafts take shelter near the port and are provided with adequate fuel, water, and food. • HMEL ensures that storage tanks are not empty in order to avoid floating of tanks. • HMEL is exploring the feasibility of using bio-

	medium to high due to the infrastructural damage caused and investments required to enhance resilience.	remedial agents for combating oil spill. • HMEL is exploring the feasibility of adding power backup for the pumping stations at the port
Type of physical risk: **Heat stress**		
Heatwaves might be a risk in the future as the number of days for heat stress may increase with rising temperatures Time-horizon: medium and long term	• Workers may experience heat rash, heat cramps, heat exhaustion, and potentially fatal heatstroke. • Higher out-migration among workers • Higher cost of operations and maintenance • Widening gender gap as heat exposure adds to the health and productivity risks faced by pregnant women. • Increased turnaround time for transportation of materials impacting the downstream distribution network. • Higher water demand in the region leading to water scarcity and unrest in local communities. • Financial Impact: The financial implications will range from low to medium depending on the severity of heat stress days.	• Isotonic drinks are provided for all workforce on heat-affected days. • Night shifts for construction related activities. • Ensuring sufficient manpower-during heat-affected days. • Loading and unloading of products can be planned during night-time. • HMEL is working on measures such as climate adapted clothing for its workers. • Development of an emergency plan in the event of heatwave.
Type of physical risk: **Water Scarcity**		
The likelihood of water stress and water depletion are extremely high for HMEL facilities especially its Refinery at Bhatinda. Time-horizon: short, medium and long term	• Non-availability of water for a long period may result in plant shutdown. • Labor migration and higher attrition rate • Greater competition for water leading to water conflict with local communities. • Financial Impact: The financial implications will range from medium to high because of impact on production due to	• Several water efficiency and recycling measures have been undertaken to reduce consumption of freshwater. • HMEL has capacity to store water to meet its operational needs for 14-16 days. It is also exploring the feasibility of increasing water storage capacity. • HMEL is planning to install floating solar photovoltaic

	water unavailability and cost of building infrastructure to tap alternate sources of water	panels over water reservoirs to reduce evaporation losses. HMEL implements projects within and outside its refinery boundary, to improve ground water levels.
Type of transition risk: **Market**		
Oil demand is expected to peak in India in mid-2030s and decline after 2040. Crude oil price is also projected to increase till 2040 and then decline. Time-horizon: long term	• Reduced sales. • Reduced revenue.	Diversification of product portfolio through investments in petrochemicals.
Type of transition risk: **Policy**		
Carbon Tax Policies: Carbon taxes are projected to be in place in all regions, globally. Requirement to adopt circular economy initiatives in production Time-horizon: short, medium and long term	• Increase in operational costs	• Investments in low carbon technologies • Purchase of carbon offsets • Exploring circular economy initiatives such as biofuels and sustainable aviation fuels
Type of transition risk: **Technology**		
Low carbon energy generation: India has set a target of meeting 50% of energy requirements from renewables by 2030. Transition to biofuels: India's 'National Policy on Biofuels' is aimed at reducing the import of petrochemical products by fostering domestic biofuel production. Green Hydrogen: Global hydrogen use is expected to expand from less than 90Mt in 2020 to more than 200 Mt in 2030. The proportion hydrogen in the global energy mix rises from 10% in 2020 to 70% in 2030. In India, the Union Cabinet approved the National	• Increase in capital investment	• Product portfolio diversification to include renewables. • Commitment to the research on renewable technologies and green business • Exploring opportunities to invest in Green Hydrogen projects.

Green Hydrogen Mission in 2022 which has the objective of development of the green hydrogen production capacity of at least 5 MMT (Million Metric Ton) per annum with an associated renewable energy capacity addition of about 125 GW in the country by 2030 Effect of shift to electric vehicles Time-horizon: short, medium and long term		
Type of transition risk: **Reputational**		
Shareholder and investor preferences: Consumers and investors are increasingly prioritizing Time-horizon: short, medium and long term	• Impact on investor funding • Impact on Company reputation and brand image Impact on stakeholder relationships	• HMEL is transparent in its ESG disclosures and has undertaken targets as part of its decarbonization journey

Risk Management

HMEL has adopted a multistep process to analyze the impacts of climate-related risks under scenarios in present day and 2050, to facilitate medium to long term business planning.

Scenario review and selection	• HMEL reviewed climate scenarios drawing from existing reference scenarios published by various organizations e.g. IEA, NGFS, IPCC and peers • Climate scenarios and timeframes which are most appropriate for HMEL were finalized • Stakeholder discussions were conducted to understand the past risks faced by HMEL and their impacts so far
Assess climate risks	• Global climate databases were used to identify risks relevant for HMEL • Stakeholder discussions/ workshops were conducted to shortlist the physical and transition risks relevant for HMEL • High level assessment was conducted to understand the magnitude of risks and opportunities, including financial impacts on a few key risks • Various recommendations were proposed, discussed, and finalized focusing on mitigating climate risks and impacts
Reporting and disclosure	• The identified risks and related mitigation efforts were disclosed in line with the requirements of TCFD recommendations

At HMEL, climate related risks are fully integrated with its risk management framework. The company has an Apex Committee which also manages climate related risks. The Committee is chaired by the CEO and comprises of CXOs and Senior Executives. The Apex Committee examines the details of the risk assessments conducted by management and assures compliance with applicable requirements. The Apex Committee oversees risks at the management level, evaluates the success of risk management operations, and reviews mitigation plans on a regular basis. In addition, the Chief Risk Officer (CRO) is assigned to coordinate all enterprise-level risk initiatives and deliver frequent briefings to the Board, Apex Committee, and Audit Committee.

Metrics and Targets

HMEL has calculated its GHG metrics based on the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard.

The Greenhouse Gas Protocol is a global framework developed by World Resource Institute and World Business Council for Sustainable Development which helps organizations to account for and manage their GHG emissions. With its first edition released in 2001, it is now one of the most widely used standards globally. The protocol provides reporting standards, calculation tools, trainings, and guidance for businesses to measure their GHG emissions along with other resources on Scope 3 guidance, Product Life Cycle Standard etc.

Metrics	**Unit**	**FY23-24**
Total Scope 1 emissions	Million tCO2e	5.95
Total Scope 2 emissions	Million tCO2e	0.72
Total Scope 1 & 2 emissions	Million tCO2e	6.67

The company is also in the process of incorporating Scope 3 emissions calculations into its current GHG inventory.

HMEL's ESG strategy focuses on reducing the company-wide environmental footprint. Therefore, the targets set by the company are reported along with its progress in the Integrated Report for FY23-24. Moreover, the metrics used to measure the progress are covered in the following sections: Manufactured, Intellectual and Natural Capital of the report.