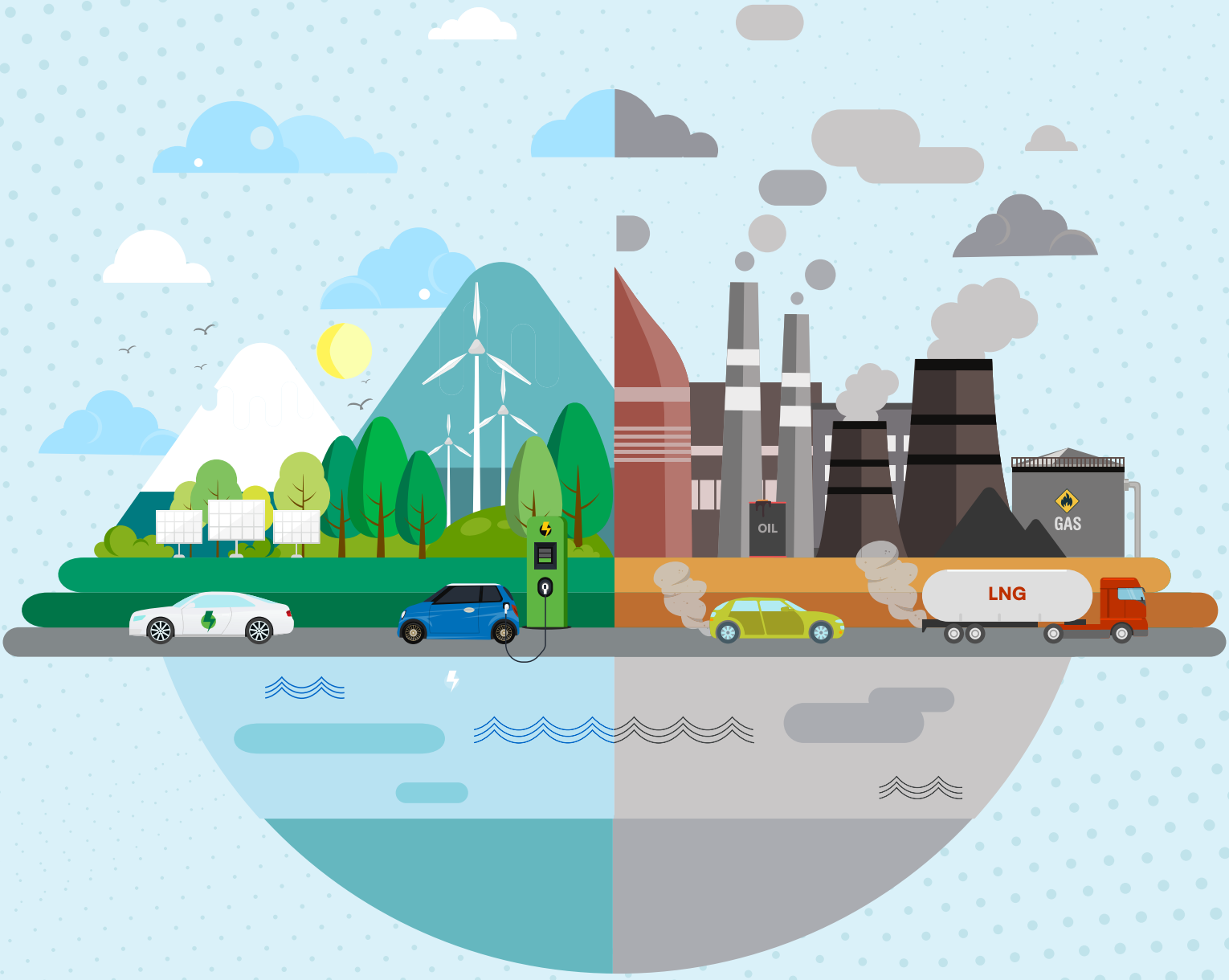
Indus Consortium
for Humanitarian, Environmental & Development Initiatives

IBA CBER
Centre for Business and Economic Research
Institute of Business Administration

CORPORATE SECTOR
ENERGY CONSUMPTION IN PAKISTAN



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LIAQAT ALI

Chairman, Board of Directors,
Indus Consortium

It is with immense pleasure that I convey my heartfelt gratitude to the remarkable teams at the Institute of Business Administration (IBA) and the Centre for Business and Economic Research (CBER), IBA, who diligently conducted the "Scoping Study of the Corporate Sector" in collaboration with Indus Consortium. The dedication and insights have paved the way for a deeper engagement with the corporate sector in our mission to fulfil our commitments to reducing carbon emissions and addressing the pressing issue of climate change.

The study's findings, as outlined in the comprehensive report, shed light on the profiles of Indus Motor Company (IMC) and Coca-Cola Company (CCP), and their contributions to greenhouse gas emissions across their supply chains. The analysis has thoughtfully dissected both the local and international commitments of these companies, underscoring their endeavours to curtail greenhouse gas emissions. The study has aptly emphasized the significance of shifting to renewable energy sources and committing to zero emissions of greenhouse gases, marking a significant step forward in the fight against climate challenges.

We can fortify our commitment to decarbonization. Monitoring Scope 3 emissions, setting clear renewable energy targets, and advocating for energy efficiency represent essential steps that demand our attention. Furthermore, collaborative initiatives with advocacy groups, transparent emissions reporting, and localized sustainability strategies can further drive our endeavours.

As we move forward, governmental support for low-emission vehicles and sustainable technologies, coupled with comprehensive regulations, incentives, and funding, will undoubtedly amplify our efforts. The report has underscored that successful management practices can yield positive outcomes and, by extension, further contribute to net-zero targets.

The insights collected from this study will undoubtedly guide us as we forge ahead with renewed determination. I am confident that, through continued collaboration, we can achieve meaningful reductions in greenhouse gas emissions and contribute significantly to the global fight against climate change.

Once again, my sincere appreciation to the entire IBA and CBER teams, and the Indus Consortium team, for their exceptional efforts in bringing this study to fruition.

DR. JUNAID ALAM MEMON

Professor and Director -
Center for Business and Economic Research, IBA

The net-zero vision of the world obligates us to be the subjects of positive environmental actions, regardless of our roles as individuals, authorities representing organizations, corporations, political parties, or societies at large. Though there are challenges related to synthesizing credible knowledge, reliable evaluations of technologies, scale and speed, finances, behaviours, justice, and political will, we trust in human ingenuity, genetic makeup ingrained with a sense of responsibility, and our ability to cooperate.

Corporations are increasingly active in addressing the climate agenda and are envisioning a net-zero impact of their business activities on the environment. Their actions, commitments, and innovations can significantly contribute to reducing greenhouse gas emissions and fostering a sustainable and resilient environment, societies, and economies. There are numerous examples of corporations transitioning from traditional, irresponsible environmental behaviours and building business models based on the principles of environmental and social governance and corporate social responsibility.

Given the diversity within the corporate world, there is a need to better understand the actions of businesses towards a net-zero future through case studies and other approaches. In this respect, the report on the net-zero vision and relevant climate action targets for Indus Motor Company and Coca-Cola Company in Pakistan is a significant and timely document. The authors appreciate the progress of these companies in reducing emissions and adopting cleaner energy and processes while identifying the challenges that lie in their way to meet ambitious reduction goals.

One of the important recommendations is the need for broader and more meaningful engagement of stakeholders to achieve net-zero targets and create a sustainable common future for us and future generations. As mentioned earlier, this is the only way we may address climate change and achieve the grand vision of a net-zero future. I hope that Indus Motor Company, Coca-Cola Company, and their stakeholders, including the Indus Consortium, will find great value in it.

ASAD ABDULLAH

Head of Corporate Communications & CSR,
Indus Motor Company

In a world faced with pressing environmental challenges, it is incumbent upon companies to lead by example, adopting sustainable practices that not only drive business success but also contribute to the betterment of society at large. At Indus Motor Company, we have embraced this responsibility wholeheartedly, with a steadfast commitment to reducing our carbon footprint and fostering educational opportunities through the Toyota — Goth Education Program (TGEP).

Underpinning our efforts is the visionary "Toyota Environmental Challenge 2050", an ambitious global commitment set forth by our parent company, Toyota Motor Corporation, Japan. This initiative charts a course towards a more sustainable future, aiming to reduce CO2 emissions across various facets of our operations. By 2030, we aim to achieve a remarkable 25% reduction in CO2 emissions throughout the entire vehicle life cycle compared to 2013 levels, a 35% decrease in CO2 emissions from new vehicles, and a 35% reduction in CO2 emissions from our global plants, all reflecting our dedication to environmental stewardship.

Under the umbrella of the Toyota Environmental Challenge 2050, IMC remains steadfast in its commitment to environmental sustainability. The company has implemented various initiatives, including the installation of water treatment plants, solid waste treatment, and disposal management systems, as well as a roof-mounted 6.3kw solar photo voltaic plant, the largest one in Pakistan by an automobile company. This achievement is indicative of our unwavering commitment to harnessing renewable energy sources and transitioning towards a more sustainable energy model.

IMC firmly believes that every small initiative has the potential to create a ripple effect and make a lasting impact on society. Furthermore, we're proud to share that our recycling efforts have led to a commendable 99% recycling rate for industrial waste and a 100% recycling rate for plastic waste. Through these initiatives, we've reduced our water consumption per vehicle by a staggering 36% since 2015. Looking ahead, our sights are set on a 20% reduction in CO2 emissions from our production facilities by 2025, building upon our 2019 baseline.

Toyota is committed to reducing its carbon footprint and we are on a mission to steer the country towards carbon neutrality through sustainable mobility solutions, having invested over US$100 Million to produce Pakistan's first locally manufactured hybrid electric vehicle with the highest-ever localized content.

Our commitment to sustainability extends beyond our immediate operations to encompass our entire supply chain which includes our suppliers and dealers. The Green Supplier Development Program is

a testament to our dedication to encouraging sustainable practices amongst our valued partners and suppliers.

In tandem with our sustainability endeavours, we recognize that education serves as the cornerstone of societal transformation. Our Toyota—Goth Education Program (TGEP) has been instrumental in providing educational support to underprivileged communities residing in close proximity to our facilities. This initiative, which commenced in 2008, has grown to support around 400 students, providing them with access to quality education up to the secondary level.

Through TGEP, we have not only provided educational opportunities but also nurtured hope and aspired for a brighter future. We believe that an educated society is the bedrock of progress, and it is our privilege to contribute to this cause.

As we stride forward on this path of sustainability and education, we recognize the importance of transparency and stakeholder engagement. We will continue to keep you (Indus Consortium) apprised of our progress, and we welcome your feedback and collaboration in our collective pursuit of a better, more sustainable future.

In closing, Indus Motor Company's journey towards sustainability and education is a testament to our steadfast commitment to Pakistan. We firmly believe that our role extends far beyond that of a car manufacturing company; we are a partner in progress, a steward of the environment, and a catalyst for positive societal change. Under the umbrella of 'Concern Beyond Cars', we are driven by a singular purpose: to leave an indelible mark on the communities we serve.

As we navigate the path towards a greener and more educated tomorrow, we carry with us a deep sense of gratitude for the unwavering support of our stakeholders, employees, partners, and, most importantly, the communities we are privileged to be a part of. Together, we have achieved remarkable milestones, but we acknowledge that there is much more to be done. We stand resolute in our commitment to reduce our environmental impact, innovate for a sustainable future, and empower the next generation through quality education.

Through it all, our vision remains unwavering: to be more than just an automaker, but a force for positive change in the lives of all Pakistanis. We look forward to the future with optimism and determination, knowing that every step we take today brings us closer to a tomorrow that is not only sustainable but also abundantly filled with opportunities for growth, learning, and prosperity.

Dr. Khadija Bari
Co-PI

Dr. Khadija Bari has been associated with IBA, Karachi since 2001. She has previously served as Chairperson Economics and Finance Department from 2010-17. She possesses a strong interest in industry research and has been a team lead in multiple sponsored research projects. She frequently participates in international conferences, presents papers and publishes articles in local newspapers. She is also a Certified Director duly approved by SECP. Presently, she is serving as an Associate Professor at IBA in the Economics department and is the Chairperson of Financial Assistance Committee. Dr Khadija has represented IBA on various government platforms. She has been an active member of FPCCI standing committee for Industry and academia linkages from 2017-2019. She is also regular visiting faculty in Command and Staff College Quetta where she conducts research and teaching workshops.

Dr. Amir Jahan Khan
Principal Investigator

Amir Jahn Khan is an Assistant Professor of Economics at IBA, Karachi. He conducts research within the fields of industrial organization and energy economics. His studies tend toward the investigation of function within regulation and public policy issues concerning the economics of energy markets. His study on "Structure and regulation of the electricity networks in Pakistan" provides a detailed account and analysis of reforms in the electricity market. Amir received PhD Economics from University of Warwick. He got formal training in Decision Analytic Modelling (DAM) to perform cost-effectiveness analysis from Centre of Health Economics at the University of York. He is a qualified Stata programmer

(Qualification: Net Course Stata Programming) and Excel expert user (Qualification: MOS Excel certification). He employed these quantitative and analytical skills to complete funded research projects for UK NIHR and The Health Foundation UK.

Hussain Jarwar
CEO, Indus Consortium

Mr. Hussain is the CEO of Indus Consortium. He has done an MPhil in International development studies from Iqra University Islamabad with 18 years of experience in development. He is a leading water activist and has advocated for the Indus Delta's restoration for decades. He authored a book on "Water for the equitable social outcome"

Shahid Jillani
Manager of Communications at Indus Consortium

Shahid Jillani currently serves as the Manager of Communications at Indus Consortium, bringing over 20 years of experience in reporting and feature writing. He obtained a Master's in Journalism from Shah Abdul Latif University Khairpur and a BS in IT. As the Manager Communications, Shahid's responsibilities include editing the monthly newsletter and overseeing media and corporate communications at Indus Consortium. He possesses robust computer and social media skills, as well as experience in teaching and conducting trainings in his field.

ABBREVIATIONS AND ACRONYMS

CBER	Centre for Business and Economics Research
CCBPL	Coca-Cola Beverages Pakistan Ltd
CCP	Coca-Cola Pakistan
CCI	Coca-Cola İçecek
CDM	Clean Development Mechanism
CO_2	Carbon Dioxide
CSR	Corporate Social Responsibility
ESG	Environmental, Social, and Governance
EUR	Energy Utilization Rate
GDP	Gross Domestic Product
GGP	Greenhouse Gas Protocol
GHGs	Greenhouse Gases
IC	Indus Consortium
IMC	Indus Motor Company Ltd
IPCC	Intergovernmental Panel on Climate Change
LED	Light Emitting Diode
m3	Cubic Meter
MJ	Megajoule
MNCs	Multinational Corporations
MTCO2e	Metric Ton Carbon Dioxide Equivalent
MW	Megawatt
PET	Polyethylene Terephthalate
SAP	Sustainability Action Plan
SDG	Sustainable Development Goals
TTCO2e	Thousand metric tons of carbon dioxide equivalent

EXECUTIVE SUMMARY

The study presents profiles of Indus Motor Company (IMC) and Coca-Cola Company (CCP) and their contribution to greenhouse gases including their overall supply chain. The study analyses the local and international commitment of the companies as reflected in the targets to reduce greenhouse gases (GHGs) emissions. It draws lessons from the analysis of the current situation and proposes guidelines for the way forward for companies to contribute to the fight against the climate challenge. For both MNCs, the process of gradually shifting to renewable energy and commitment to zero-emission of GHGs is documented in this report. The analysis also includes companies' efforts toward carbon neutrality and net-zero targets in terms of investment in carbon sinks and carbon capture (e.g., forest, agricultural land).

In this study, we employed three scopes of the Greenhouse Gas Protocol (GGP) as the framework for reporting GHG emissions, which is the world's most widely used GHG accounting standard for businesses. For CCP, the total estimated greenhouse gas emissions vary between 356 to 463 thousand tons of CO_2 equivalent during the period of analysis. The CCP's forecasted figure for 2030 shows that the total emissions will stand at 1,096 59 $TtCO_2e$, almost at 3 times compared to the level of 2015. The Coca-Cola company committed to reducing greenhouse gas emissions to a 25 % reduction by 2030 against the 2015 baseline, with the current trend, the company will be facing a gap in the target, producing about 800 thousand tons of CO_2 equivalent extra emissions per year in 2030. The share of Scope 1, Scope 2, and Scope 3 in total emissions stands at 3%, 13%, and 84% respectively in 2021. The Scope 3 emissions are on the rise which means the upstream suppliers and downstream partners are contributing substantially to the growth of the emissions resulting in the value chain of the company. As IMC is not reporting Scope 3 emissions, which indicates that total emissions for IMC are underreported between 40 and 64 thousand tons of CO_2 equivalent.

CCP has made progress in reducing carbon emissions and promoting sustainability across its operations. The renewable energy use at the company went up from 24% in 2015 to 40% in 2020. The renewable energy used was less than 1% of total energy consumption at IMC in 2018 as compared to 15% in 2021. Shifting to solar power has resulted in 3,000 tons of CO_2 reduction compared to 2,250 tons of CO_2 reduction in 2021. Indus Motor Company (IMC) demonstrates a strong commitment to sustainability through energy reduction, recycling, and CO_2 emission targets. Collaborating with advocacy groups and adopting recognized reporting frameworks can boost their CSR efforts. For Coca-Cola İçecek (CCI), success lies in transparent emissions reporting and localized sustainability strategies, while utilizing renewable energy and optimizing logistics. Stakeholder engagement and public awareness campaigns can drive positive change. Policy recommendations include monitoring scope 3 emissions, setting renewable energy targets, and promoting energy efficiency. Governmental bodies should support low-emission vehicles and sustainable technologies through regulations, incentives, and funding. Both companies' good management practices can potentially bring positive results in Pakistan as well for net-zero targets. However, further engagement with companies is required to understand specific steps that need to be taken for the potential reduction of GHGs emissions.

INTRODUCTION

The Indus Consortium (IC) signed a contract on 15 February 2023 with the Centre for Business and Economics Research (CBER) at IBA to undertake a scoping study for measuring the energy consumption of two leading corporations in Pakistan. The main objective of the project is to develop profiles of the two companies and their contribution to greenhouse gases including their overall supply chain. For this purpose, Indus Motor Company (IMC) and Coca-Cola Company were selected as target companies to represent the automobile and beverage industries, respectively. While IMC was already selected in the study TORs, Coca-Cola Pakistan (CCP) was selected based on it being the leading MNC in the beverage industry. CCP captures 49.5% market share of Pakistan's sparkling beverage market. Also, recent research found that the global supply chains of multinational companies such as BP, Coca-Cola and Walmart are responsible for nearly a fifth of climate-changing carbon dioxide emissions globally (Zhang, 2020). And emissions from the supply chain producing Coca-Cola products are almost equivalent to what China emits in its food sector to feed 1.3 billion people (REUTERS, 2000).

This study analyses the local and international commitment of the companies as reflected in the targets to reduce greenhouse gases (GHGs) emissions. It draws lessons from the analysis of the current situation and proposes guidelines for the way forward for companies to contribute to the fight against the climate challenge.

For both MNCs, the process of gradually shifting to renewable energy and commitment to zero-emission of GHGs is documented in this report. The analysis also includes companies' efforts toward carbon neutrality and net-zero targets in terms of investment in carbon sinks and carbon capture (e.g., forest, agricultural land). Global commitments of the parent companies of the two MNCs through participation in the Clean Development Mechanism (CDM) set up in Kyoto Protocol, use of tradable permits, and the usage of net zero ambitions of the Paris Agreement are also discussed along with any consequences for GHG emissions in Pakistan.

The report documents Coca-Cola Pakistan and Indus Motors Pakistan Corporate Social Responsibility (CSR) policies and practices in the context of environmental social governance SOPs, responsible business policies and practices, and commitment to sustainability. The efforts to reduce energy consumption, promote renewable energy sources, and engage with nearby communities are noted. It provides recommendations for shifting operations to clean energy and achieving net zero emissions, as well as an advocacy plan and framework for engaging with both MNCs toward these goals. It provides context and key learnings for achieving sustainability goals by examining similar international and national corporate campaigns.

1.1. Background

Climate change across the globe will affect millions (World Bank, 2022). Rising sea levels are affecting coastal cities and small islands, heavy rains are causing floods, and extreme droughts are wiping out livestock resulting in large-scale migration. These are some of the consequences resulting from climate change because of emissions of greenhouse gases (GHGs) primarily associated with human activities on the earth. Experts believe that an increase of 1.5 to 2 degrees Celsius in average global temperature is the maximum limit, which will likely raise the sea level by 80-90 cm. The Intergovernmental

Panel on Climate Change (IPCC) estimated that without the required global action the average increase in the temperature will be 2.5 to 7.8 degrees Celsius by the end of the twenty-first century (IPCC, 2021).

Pakistan only contributes 0.9% to global greenhouse gas emissions (GHGs), but the emission per unit of GDP is likely to be much higher in Pakistan than in other countries (Government of Pakistan, 2021). That means possibilities to reduce the GHGs are large in Pakistan. For example, the same number of transport commutes between two cities with equal distances will result in higher emissions in Pakistan than UK given the age and maintenance of vehicles in Pakistan. Pakistan intends to set a cumulative, ambitious, and conditional target of an overall 50% reduction of its projected emissions by 2030, with a 15% reduction from the country's own resources and a 35% reduction subjected to the provision of international financing. According to the Government of Pakistan's updated climate action plan, it aims to shift to 60% renewable energy and 30% electric vehicles by 2030, ban imported coal, and adopt alternative measures that include growing more trees (United Nations, 2022). Figure 1 shows that the electricity generation and transport sectors are the leading source of emissions.

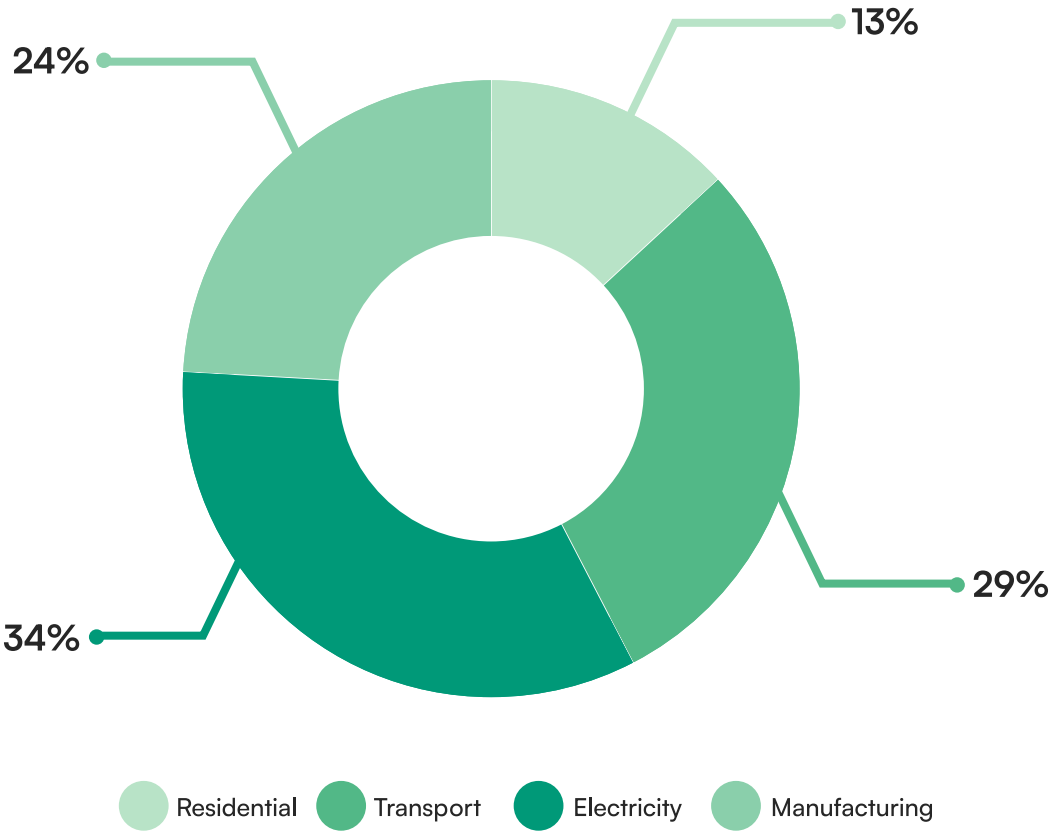


Figure 1: CO_2 emissions by source in Pakistan

In this background, the role of leading corporations in the manufacturing sector is important in mitigating GHGs emissions. This scoping study of the corporate sector is carried out to document detailed data analysis and sustainability strategy on two companies in Pakistan: Indus Motor Company Limited (IMC) and Coca-Cola Pakistan (CCP).

METHODOLOGY AND WORK PLAN

The carbon footprint measured includes greenhouse gas emissions produced during both firms' product life cycles and value chains i.e., from the extraction of raw materials up to waste disposal. The GHG protocol developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) is employed for the measurement and reporting of the carbon footprint (GHG, 2022). GHG protocol is the most widely used greenhouse gas accounting standard. The protocol is used by companies and regulators as well. Measuring the carbon footprint of the CCP and IMC in Pakistan is a complex exercise given the nature of the organization as explained in the company profiles. We need to calculate the amount of GHG emissions that are released during the production, transportation, and consumption of the company's products.

GHGs mainly constitute carbon dioxide CO2 and methane (about 90% of total GHGs), in this study, we will sometime use CO2 and GHGs interchangeably (EPA, 2022). Therefore, the main exercise to measure the impact of a firm's economic activity on the climate constitutes estimating the amount of GHGs released in the atmosphere during the production process (in terms of Thousand Metric Tons of CO_2 equivalent). This exercise is also significant as the most effective way to reduce CO_2 emissions is to track and reduce fossil fuel consumption (EPA, 2022). Alternate terms of Carbon-footprint calculator are also used in the literature.

In this study, we employed Greenhouse Gas Protocol (GGP) as the framework for reporting GHG emissions, which is the world's most widely used GHG accounting standard for businesses. There are several other open-source carbon calculators available on the web, there is also an international standardization organization ISO-14067 standard for quantifying and reporting CFP for the firms. While each protocol has its advantages and limitations, this report focuses on GGP for consistent analysis. As the GGP states, "Developing a full GHG emissions inventory — incorporating Scope 1, Scope 2 and Scope 3 emissions — enables companies to understand their full value chain emissions and focus their efforts on the greatest reduction opportunities".

Scope 1: Direct emissions from sources that are owned or controlled by the organization (e.g., emissions from the company's ovens/plants).

Scope 2: Indirect emissions from the generation of purchased energy (e.g., electricity used in the company's production).

Scope 3: Indirect emissions from sources outside the organization's boundaries, such as the transportation of raw materials and finished products.

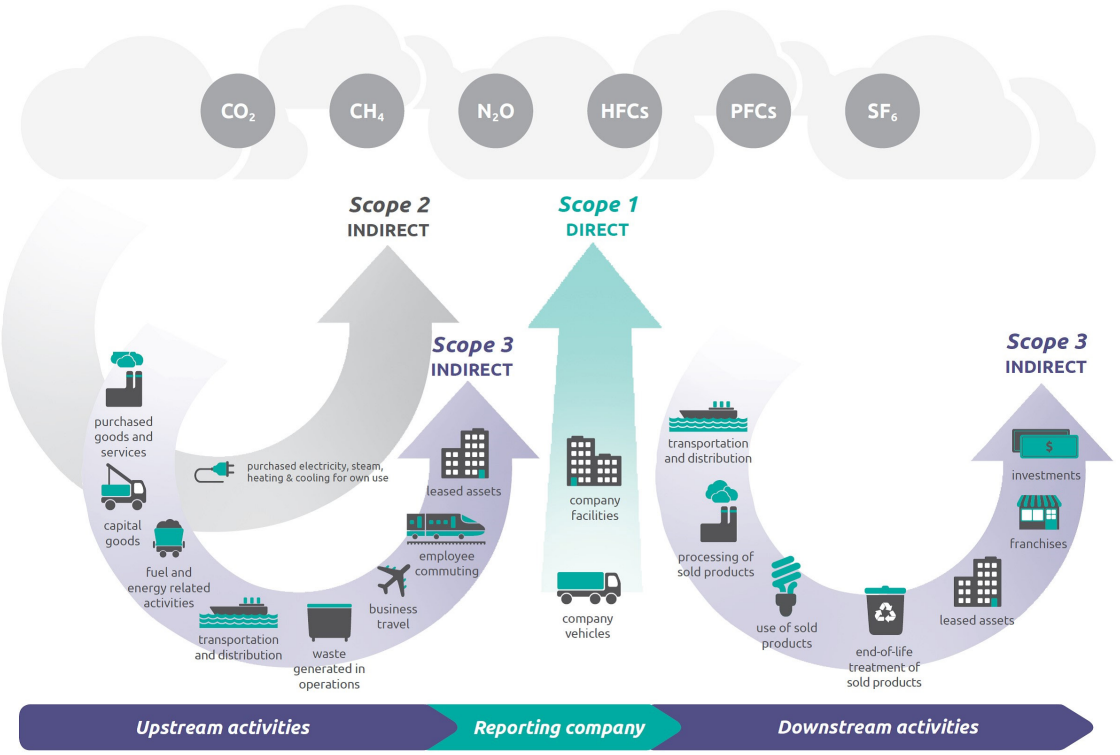
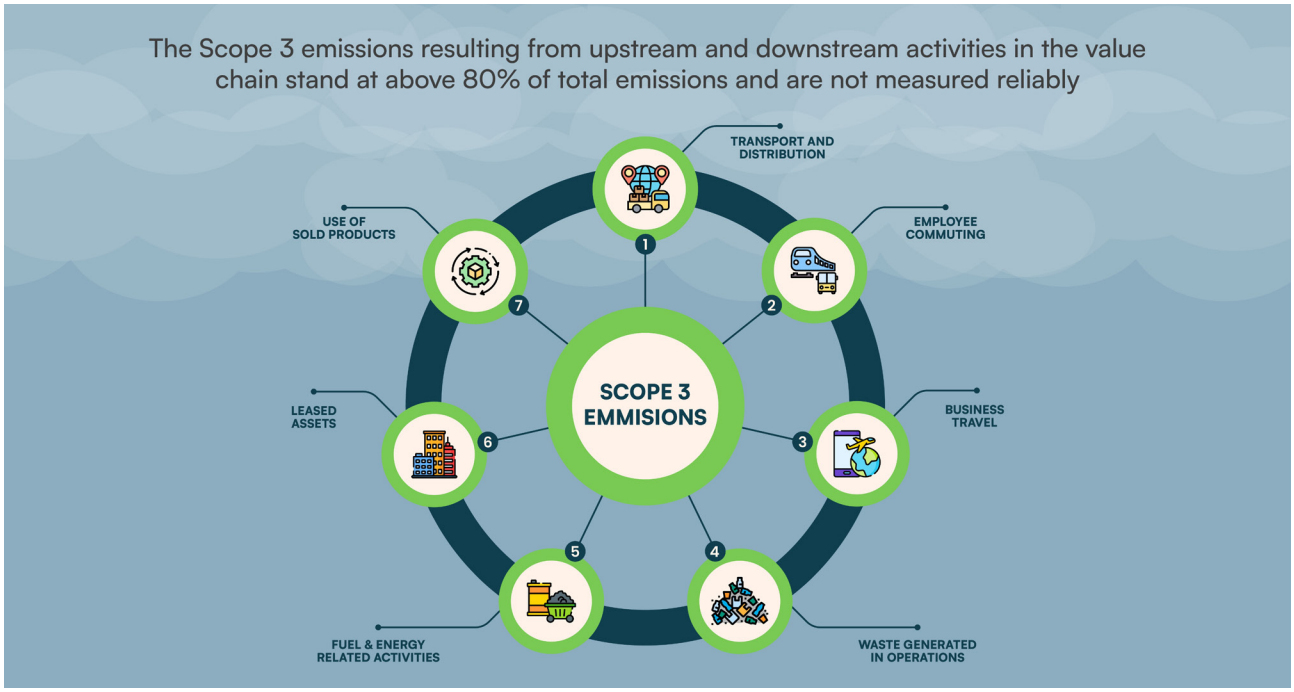


Figure 2: GHG protocol of scope and emissions across the value chain (GGP, 2022)

Scopes 1 and 2 are those emissions that are owned or controlled by a company, whereas Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by it. As noted below the measurement protocol is not followed by the companies entirely, particularly for Scope 3. Scope 3 emissions are usually the hardest to measure and tackle, as they partly cover those produced by customers using the company's products (GGP, 2022). The purpose of eliciting the methodology here is to reflect on a benchmark standard, however, the firms might not follow it. Also, at the macro level in an economy if all firms report Scope 1 and Scope 2 then Scope 3 will result in some potential duplication. The period for this study's analysis is from 2015 to the latest available data year. This period coincides with the firms benchmarking year to report emissions reduction.



THE COCA-COLA PAKISTAN (CCP)

The CCP celebrated 125 years of its brand in 2010. It is a non-alcoholic beverage company, which engages in the manufacturing, marketing, and sale of non-alcoholic beverages, including sparkling soft drinks, water, enhanced water and sports drinks, juice, dairy and plant-based beverages, tea, and coffee. An MNC with the head office based in Atlanta US. In Pakistan, the product exists in the market since 1953, however, the corporate presence of the company is relatively recent. Coca-Cola İçecek (CCI) produces, sells, and distributes products of The CCP in Türkiye, Pakistan, Central Asia, and the Middle East. In 2021, unit case volume for Europe, Middle East and Africa, Latin America, Asia Pacific, and North America were 29%, 27%,23%, and 18% respectively. The CCP develops products, produces advertising and programs to support those products, and sells syrup concentrate to CCI. As a bottler of CCP, CCI combines concentrate with other ingredients to produce and package beverages. CCI then uses its sales and delivery forces to sell and distribute products to retail customers and distributors. CCI's total production capacity in 2017 was 1,507-million-unit cases or 8,556 million liters. CCI capture 49.5% market share of Pakistan's sparking water market.

In 2007, Coca-Cola acquired the local operations and rebranded the entity as Coca-Cola Beverages Pakistan Limited (CCBPL). CCBPL offers a wide range of products through CCI in Pakistan. CCI Pakistan's product portfolio, which serves a consumer base of 208 million with 7 factories and 2,500 employees across Pakistan, includes Coca-Cola, Sprite, Fanta, Coke Zero, Sprite Zero, Dasani, Sprite Lemon Mint and Cappy Joosi.

According to Pakistan Statistical Yearbook 2022 there are 36 establishments in the Beverages industry with a total value of production Rs28.78 billion (2005-06). According to the Pakistan Beverage Industry Report, CCBPL is the market leader in the Pakistani beverage industry with a market share of around 41% (as of 2020). CCBPL has manufacturing plants in various parts of Pakistan, including Karachi, Lahore, Multan, Gujranwala, and Faisalabad. The company's plants are equipped with state-of-the-art technology and adhere to international quality and safety standards. CCBPL employs over 7,000 people in Pakistan, making it one of the largest employers in the country. The company provides its employees with a safe and inclusive working environment and offers various training and development opportunities. The company also took different steps to protect the environment and contribute to environmental sustainability. For example, the reverse osmosis water purification and reuse project at the Lahore plant in Pakistan and the scrubber efficiency improvement project at the Gujranwala plant in Pakistan. In 2020, CCI Pakistan signed a Memorandum of Understanding (MoU) with the Pakistan Horticulture Authority (PHA) to provide purified wastewater for cleaning roads and watering green areas.

The CCBPL rates GHGs high in terms of impact on stakeholders and the Coca-Cola system (Figure 3). Globally, Coca-Cola has worked with experts to set science-based targets to address climate change issues. In 2021, the company announced that it will make solid progress to decarbonize the Coca-Cola system by achieving the "drink in your hand" goal. The company increased its ambitions through the 2030 greenhouse gas emissions target to reduce absolute emissions by 25% against a 2015 baseline, and the long-term ambition is to be net zero carbon by 2050.

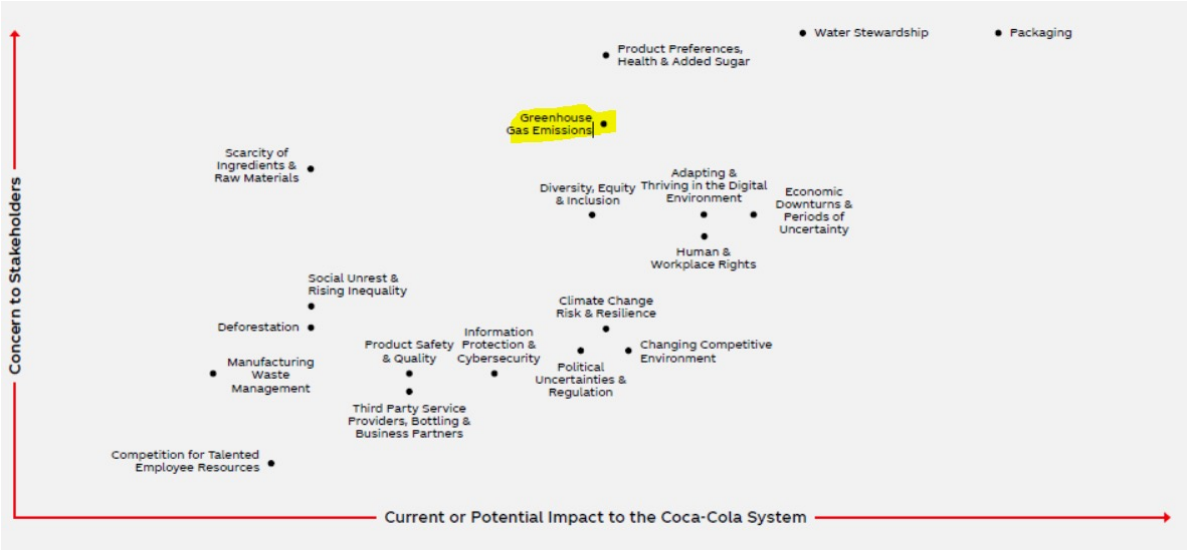


Figure 3: Priority Environment, Social and Governance (Coca-Cola, 2021)

3.1. Coca-Cola System Contribution to Greenhouse Gases (GHGs)

As documented in the methodology section above, the measurement of the carbon footprints of a company crucially depends on the energy consumption data. Once the necessary data is collected, emissions factors are applied to calculate the greenhouse gas emissions from each source. Emissions factors are values that represent the number of greenhouse gases emitted per unit of activity (e.g., per ton of Coke produced in liters). Ideally, data is required for various stages of activities in the value chain (see Table 1). However, for the Coca-Cola system, the data is reported centrally at CCI and global levels. The data used in the analysis here is collected from The CCP 2021 Business & ESG Report (Coca-Cola, 2021) and Coca-Cola İçecek (CCI) sustainability report (CCI, 2021).

Inputs (Scope 2)	Emissions from the energy used in the electricity purchased and used to produce other raw materials used as inputs.
Packaging (Scope 3)	Emissions from the production of packaging materials, material transport, and end-of-life disposal.
Production (Scope 1)	Emissions from the production process at the plant, warehouses, and running of offices
Transportation (Scope 3)	Emissions from energy use in the transportation of the products from plants to warehouses and retailers.
Retail (Scope 3)	Emissions from energy use in refrigeration and other retail processes.

TABLE 1: Emissions classification of activities in the value chain

GHG Emissions in thousand tons of CO_2 equivalent (TTCO2e) data is collected for CCBPL from CCI integrated report for 2021. As shown in Figure 4, the total estimated greenhouse gas emissions vary between 356 to 463 thousand tons of CO_2 equivalent during the period of analysis. Total emissions have gone up after the pandemic due to a surge in demand, however, the intensity of energy use is consistently declining. That shows the company is efficiently using the energy at the plants, this is also confirmed by the fact that scope 1 emissions directly from plants is gone down from 226 to 139 $TTCO_2e$ (Figure 4). The forecasted figure for 2030 shows that the total emissions will stand at 1,096 59 $TTCO_2e$, almost 3 times compared to the level of 2015. The Coca-Cola company committed to reducing greenhouse gas emissions to 25 % reduction by 2030 against the 2015 baseline. This is important to note that with the current trend, the company will be facing a gap in the target,

producing about 800 thousand tons of CO2 equivalent extra emissions per year in 2030. These estimates are based on scope 1 (direct), scope 2 (energy purchased), and scope 3 figures, where the share of scope 1 and scope 2 in total emissions stands at 3% and 13% respectively in 2021. The scope 3 is the largest part of the GHG emissions, 84%. The scope 3 emissions are on the rise which means the upstream suppliers and downstream partners are contributing substantially to the growth of the emissions resulting in the value chain of the company.

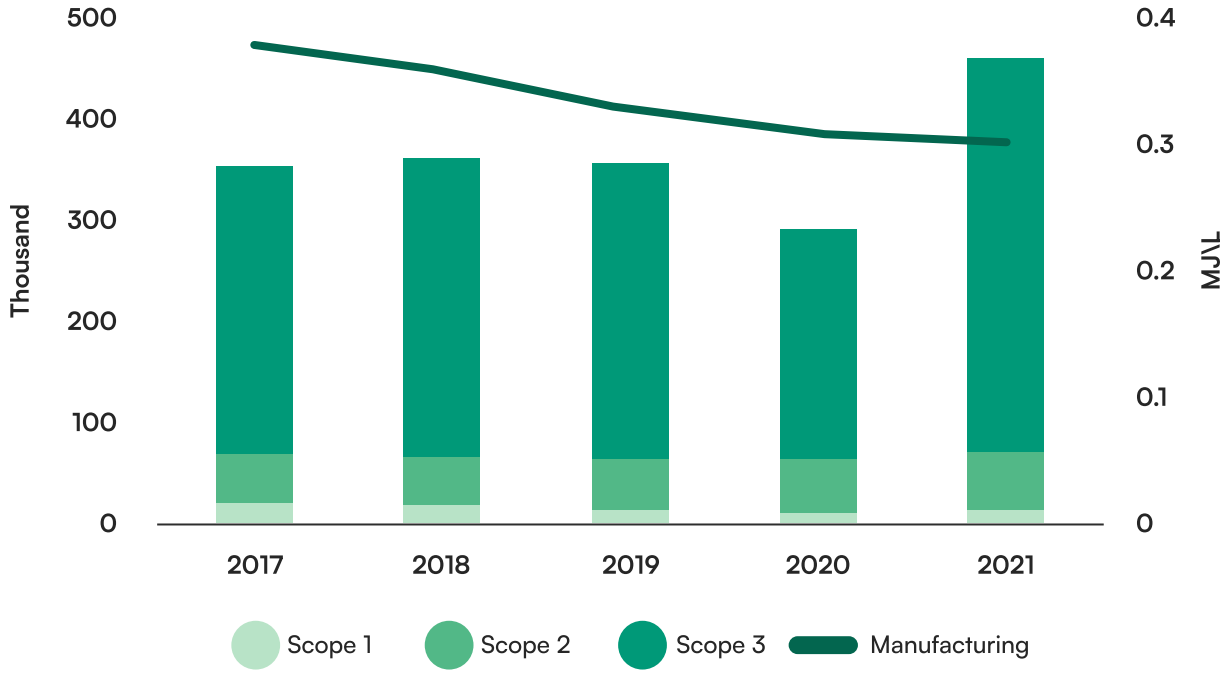
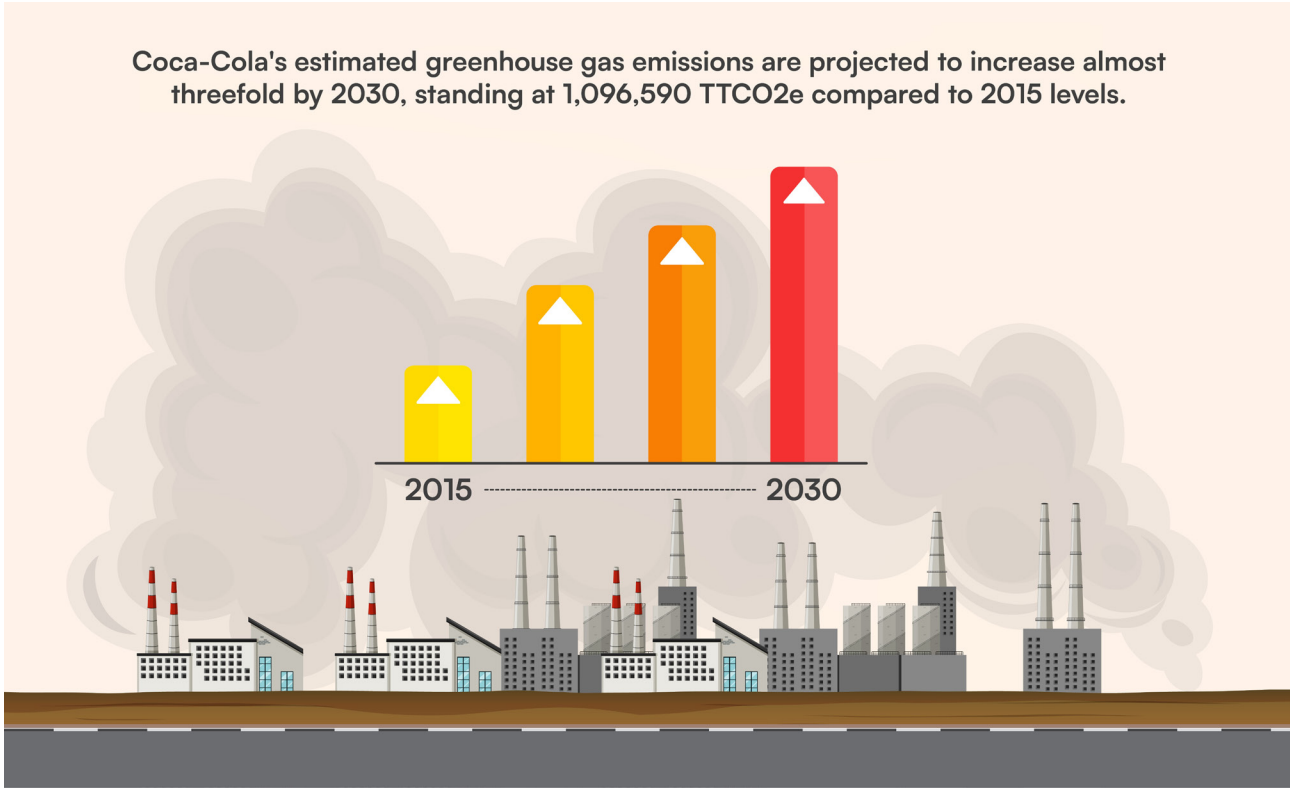


FIGURE 4: Coca-Cola Pakistan Greenhouse Gas Emissions (metric tons) $MTCO_2e$ in thousands



INDUS MOTOR COMPANY (IMC)

IMC is a joint venture between certain companies of House of Habib of Pakistan, Toyota Motor Corporation (TMC), and Toyota Tsusho Corporation (TTC) of Japan. Incorporated in 1989, the Company manufactures and markets Toyota brand vehicles in Pakistan. These include several variants of the flagship 'Corolla' and "Yaris" in the passenger car segment, "Hilux" in the light commercial vehicle segment, and "Fortuner" in the Sports Utility Vehicle segment. According to available estimates, IMC owns 18 % of the market share of automobile industry sales in Pakistan.

IMC's manufacturing facility and offices are located in a 109.5 acres site at Port Qasim, Karachi. The product is delivered to end customers nationwide through a network of 55 independent 3S (sales, parts, and accessories) dealerships across the country. Since 1989, IMC has sold more than 1.06 million CBU/CKD vehicles. Daily production at IMC has gone up from a modest beginning of 20 vehicles per day production in 1993, the daily production capacity of the Company has now increased to 288 (with overtime) units per day. This has been achieved through the development of human talent embracing the 'Toyota Way' of quality and lean manufacturing.

IMC has made investments in enhancing its own capacity and in meeting customer requirements for new products. Corolla is the largest-selling automotive brand model of IMC with the highest Corolla-selling nation in the Asia-Pacific region. According to the latest data the Company has a workforce of 3,129 people. IMC invests heavily in training the team members and management employees and creating a culture of high-performing and empowered staff. IMC employees are encouraged to pursue high standards of business ethics and safety according to the core values of the Company. IMC has played a significant role in the development of the entire value chain of the local auto industry. It has contributed to Community Uplifting at the grass root level by nurturing localization and creating thousands of job opportunities and transferring technology to 52 vendors supplying parts across the country. The Company is also a major taxpayer and significant contributor to the Government's exchequer. The revenue of IMC, decreased by 35.5% to 177.7 billion from 275.5 billion compared to previous year ended June 2022 while profit after tax reduced by 34% from 25.5 to 16.8 billion for the same period last year (Annual Report of IMC FY23).

4.1. IMC Contribution to Greenhouse Gases (GHGs)

According to the Greenhouse Gas Protocol (GGP), emissions from economic activities should be measured along the value chain of the firm. This includes

a) Direct emissions from sources that are owned or controlled by IMC (e.g., emissions from offices, plants/factories owned by the company)

b) Indirect emissions from the generation of purchased energy (e.g., electricity used by IMC)

c) Indirect emissions from sources outside the organization's boundaries (up and down in the supply chain), such as energy used in the production of inputs (parts), the transportation of raw materials to the company, downstream activities including logistic movements, consumption of energy at dealers/ aftermarket, and recycling.

According to IMC "Natural gas and electricity used at its plant are the main energy sources and the largest contributor to GHG emissions." IMC has a Co-Generation capacity of 6 MW, a combined heat power system, to meet energy usage at the plant in Karachi. The energy consumption at IMC during the year increased by 28,826 GJ compared to the previous year. However, the energy used per manufactured vehicle decreased to 5.22 units compared to 6.89 GJ/ unit in 2021. As shown in Figure 5 IMC emissions fluctuated substantially from 2017 to 2022, the current emissions are slightly above the 2017 level (despite a slight decline in energy consumption in terms of GJ). This might be the case that after controlling for output variation the efficient energy use factors are minimal. However, the intensity of energy consumption at IMC has declined in recent times. In 2022, for the first time, IMC defined a GHG emission reduction target to reduce emissions by 14% from the 2013 level by 2025. The incremental progress against the incremental targets will be reported in IMC's next sustainability report.

IMC is reporting CO_2 emissions following the guideline of TMC Japan in order to monitor and control factory emissions as well as supply chain emissions. The company follows strict targets to gradually reduce all of its emissions each year. As IMC uses electricity purchased from the national grid and gas supplied by SSGC, so the company monitors its emissions separately for both of them. Additionally, the company also controls the emissions caused by its logistics partners in its product supply across the land. The company promotes all of these green practices to its business partners that includes suppliers and dealers. As IMC is not reporting scope 3 emissions, which indicates that total emissions in Figure 5 are underreported between 40 and 64 thousand tons of CO_2 equivalent . According to IMC, some of the data sets in scope 3 can be collected reliably while other data sets are not available and cannot be collected reliably. Previously IMC was reported in accordance with Global Reporting Initiative (GRI) standards at the core level which allows IMC to not report scope 3 emissions. However, from this year, IMC is looking ahead to follow the framework of SBTi scope 1 and 2, further aligning its strong commitment on green environment with the internationally recognized facts. In future, IMC also plans to expand to scope 3 emissions following the guideline of TMC.

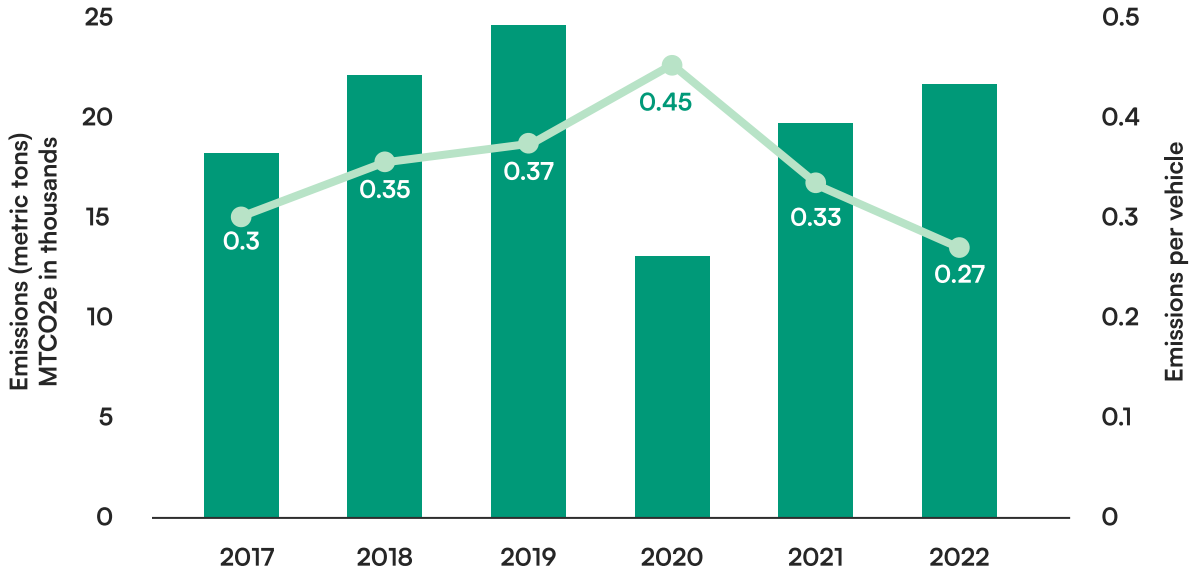


FIGURE 5: Indus Motors Company Greenhouse Gas Emissions (IMC, 2022)

GLOBAL COMMITMENTS, GOOD PRACTICES AND SCOPE FOR REDUCTIONS IN GHG EMISSIONS

5.1. Coca-Cola Company

Coca-Cola İçecek (CCI) has made progress in reducing carbon emissions and promoting sustainability across its operations. The renewable energy use at the company went up from 24% in 2015 to 40% in 2020. CCI reduced carbon emissions by 32% between 2010 and 2020. To achieve these goals, CCI successfully reduced emissions intensity by 25% in 2018 compared to 2010 levels, optimizing energy management systems, and investing in energy-efficient equipment and technologies, such as LED lighting (CCI, 2021).

The company also implemented water management strategies and formed a committee to reduce water and energy utilization rates. CCI signed an agreement to purchase most of its electricity needs from renewable sources in Turkey, established a 10 MW solar power plant, and optimized logistics and transportation systems. These efforts resulted in saving 330 million MJ of energy, generating 45,000 tons of CO_2 emissions. CCI Pakistan initiated a 'Clean and Green drive.' The drive was initiated to address environmental concerns. CCI Pakistan collaborated with the Ministry of Climate Change, Pakistan to plant 50,000 trees in 8 districts of the country. These good management practices can potentially bring positive results in Pakistan as well for net-zero targets. Pakistan is part of CCI in the Coca-Cola system, this needs to be understood what specific steps have been taken by the company in Pakistan so far that can potentially result in reduction of GHGs emissions.

5.2. Indus Motor Company

IMC parent/partner company's global commitment includes three milestones under the "Toyota Environmental Challenge 2050";

a) Reduce CO_2 emissions by 25% or more throughout the entire vehicle life cycle by 2030 compared to 2013 levels.

b) Reduce global average CO_2 emissions from the new vehicle by 35% or more by 2030 which may depend on market conditions.

c) Reduce CO_2 emissions from global plants by 35% compared to the 2013 level.

The renewable energy used was around 1% of total energy consumption at IMC in 2018 as compared to 15% in 2021. The Sindh Environmental Protection Agency sets the legal limits for environmental protection including emissions and IMC is compliant with all the applicable set limits. The company has a third-party environmental parameters testing.

At IMC, the current installed capacity of onsite solar power is 4.5MW. The share of solar energy in total electrical energy consumption is 23%. The shifting to solar power has resulted in 3,000 tons of CO_2 reduction compared to 2,250 tons of CO_2 reduction in 2021 (IMC, 2022). IMC is Pakistan's first company to install one of the largest roof-top mounted solar Photovoltaic (PV) plants and the biggest solar PV plant in the automobile industry.

Additionally, Indus Motors Pakistan has

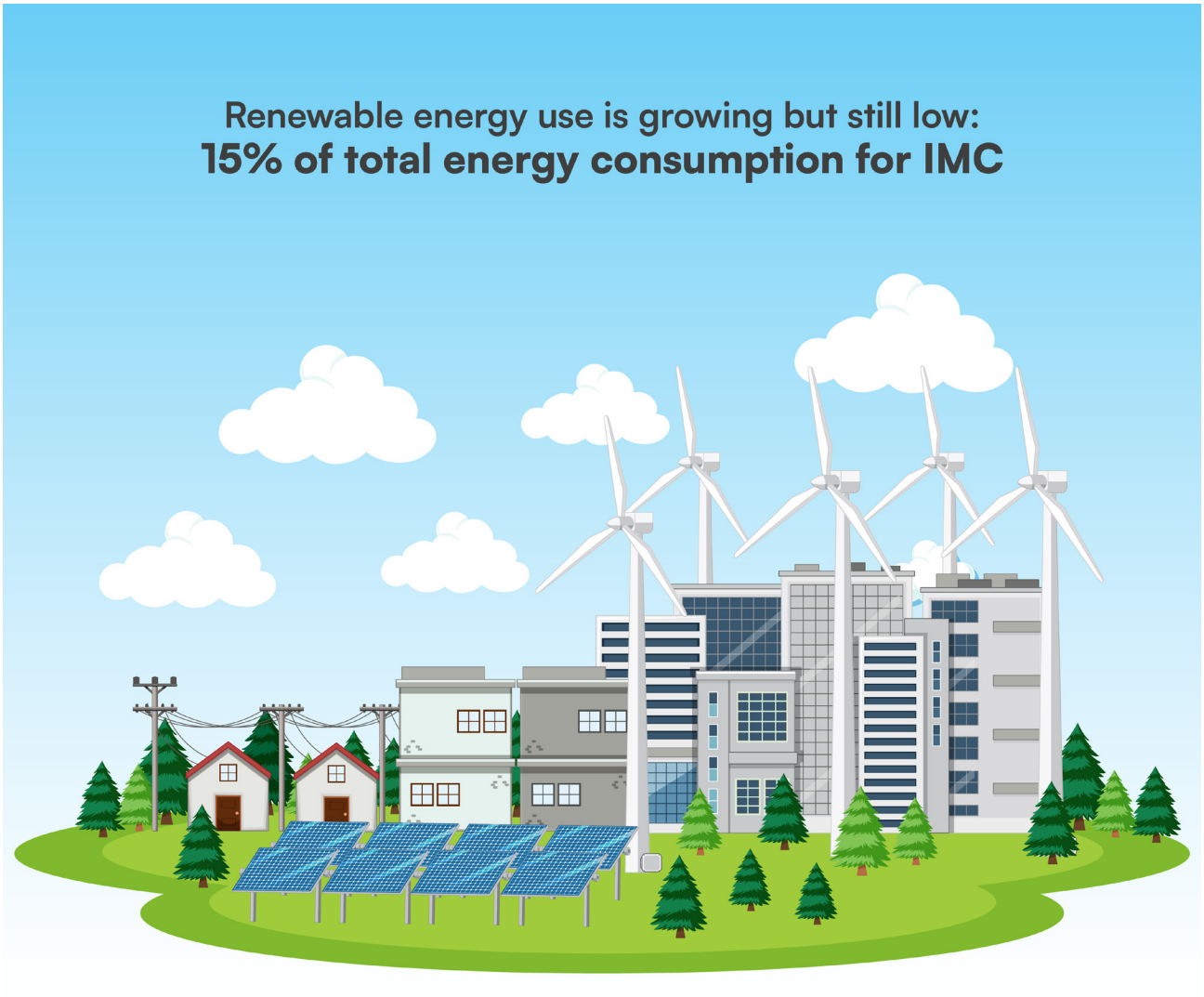
established a Green Supplier Development Program to encourage sustainable practices across its supply chain. These results demonstrate Indus Motors Pakistan's dedication to sustainability and its commitment to achieving Net Zero Emissions. Indus Motors Pakistan is making considerable progress toward the net-zero emissions target and contributing to a more sustainable future by continuing to invest in renewable energy infrastructure, reducing waste and water consumption, and promoting sustainable practices across its operations and supply chain.

Furthermore, Indus Motor Company has recently doubled down on the introduction of hybrid vehicles into Pakistan, marking a significant stride towards a more sustainable automotive landscape. These innovative vehicles seamlessly integrate both conventional and electric power sources, offering an efficient and eco-friendly mode of transportation. In terms of the environment, the impact is profound. Hybrids significantly curtail carbon emissions, a critical step towards mitigating climate change. Their dual-energy system drastically reduces reliance on fossil fuels, directly translating into lower fuel costs for consumers. Moreover, the reduction in carbon emissions not only ensures cleaner air quality but also contributes to a healthier, more sustainable environment for future generations. Thus, embracing hybrid vehicles in Pakistan not only marks a progressive step towards modernizing transportation but also stands as a testament to our commitment to a greener, more sustainable future.

Good Practice Examples: To provide context for campaigns to shift operations to clean energy and achieve net zero emissions, it is helpful to examine similar international and national corporate campaigns. One example is Apple's commitment to achieving 100% renewable energy use across its global operations, including its manufacturing facilities and data centres. Apple has implemented several successful strategies, including the installation of over 1,000 megawatts of renewable energy capacity, the use of energy-efficient technologies, and the adoption of a closed-loop supply chain to promote the reuse and recycling of materials.

Another example is Amazon's commitment to achieving net zero carbon emissions by 2040 using renewable energy sources, electrification of its delivery fleet, and investments in sustainable technologies. Amazon has implemented several successful strategies, including the installation of over 6.5 gigawatts of renewable energy capacity, the use of energy-efficient technologies, and the development of innovative packaging materials to reduce waste. Key learnings from these corporate campaigns include the importance of setting ambitious goals, prioritizing the use of renewable energy sources, and implementing sustainable practices across various areas of operations. These companies have also recognized the importance of engaging with stakeholders and collaborating with partners to achieve their sustainability goals.

Takeaways from these corporate campaigns include the need for companies to take an integrated approach to sustainability, focusing on reducing their carbon footprint, promoting renewable energy sources, and engaging with stakeholders. Companies should also prioritize the use of energy-efficient technologies, adopt closed-loop supply chains to promote material reuse and recycling and invest in sustainable technologies to reduce waste. These examples highlight the importance of creating a more sustainable future through collaborative efforts by businesses, governments, and civil society.


Renewable energy use is growing but still low:
15% of total energy consumption for IMC

CORPORATE SOCIAL RESPONSIBILITY (CSR) POLICY AND PRACTICES AT THE COMPANIES

CSR in the context of reducing carbon footprint refers to the commitment made by businesses to significantly minimize their GHG emissions. This often involves adopting sustainable practices, investing in renewable energy, improving energy efficiency, and promoting or developing products and services that have minimal environmental impact. This strategy does not only help in climate change mitigation but also enhances the company's reputation among environmentally conscious consumers and investors.

6.1. Indus Motor Company

IMC is a trailblazer in sustainable and responsible business practices, backed by impressive results. The company has reduced its energy consumption per vehicle by 17% since 2015, largely due to the implementation of energy-efficient equipment such as LED lights and solar panels. In addition, with the sale of over 8,000 hybrid vehicles in Pakistan, the company has reduced CO_2 emissions by over 32,000 metric tons. The company's employee welfare programs have positively impacted over 3,129 employees, providing them with a safe and healthy work environment, competitive salaries and benefits, and career development opportunities. Indus Motors' commitment to supplier engagement has resulted in a 100% assessment of its Tier 1 suppliers and 63% of its Tier 2 suppliers, providing training and support to encourage sustainable practices. With a strong focus on corporate governance, Indus Motors has set the bar high for ethical standards in the industry. Indus Motors' CSR initiatives and responsible business practices demonstrate the importance of sustainability in the automotive industry and make it a good example for other companies to follow.

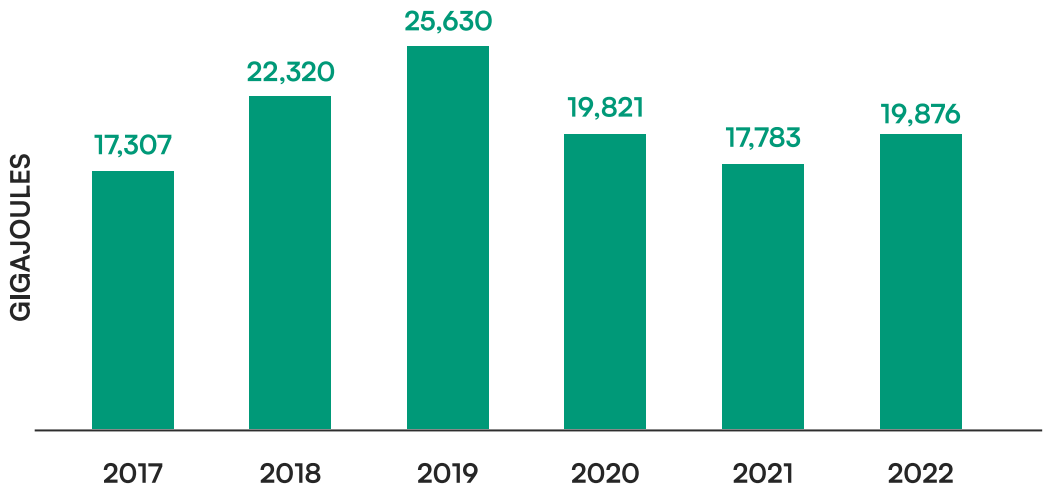
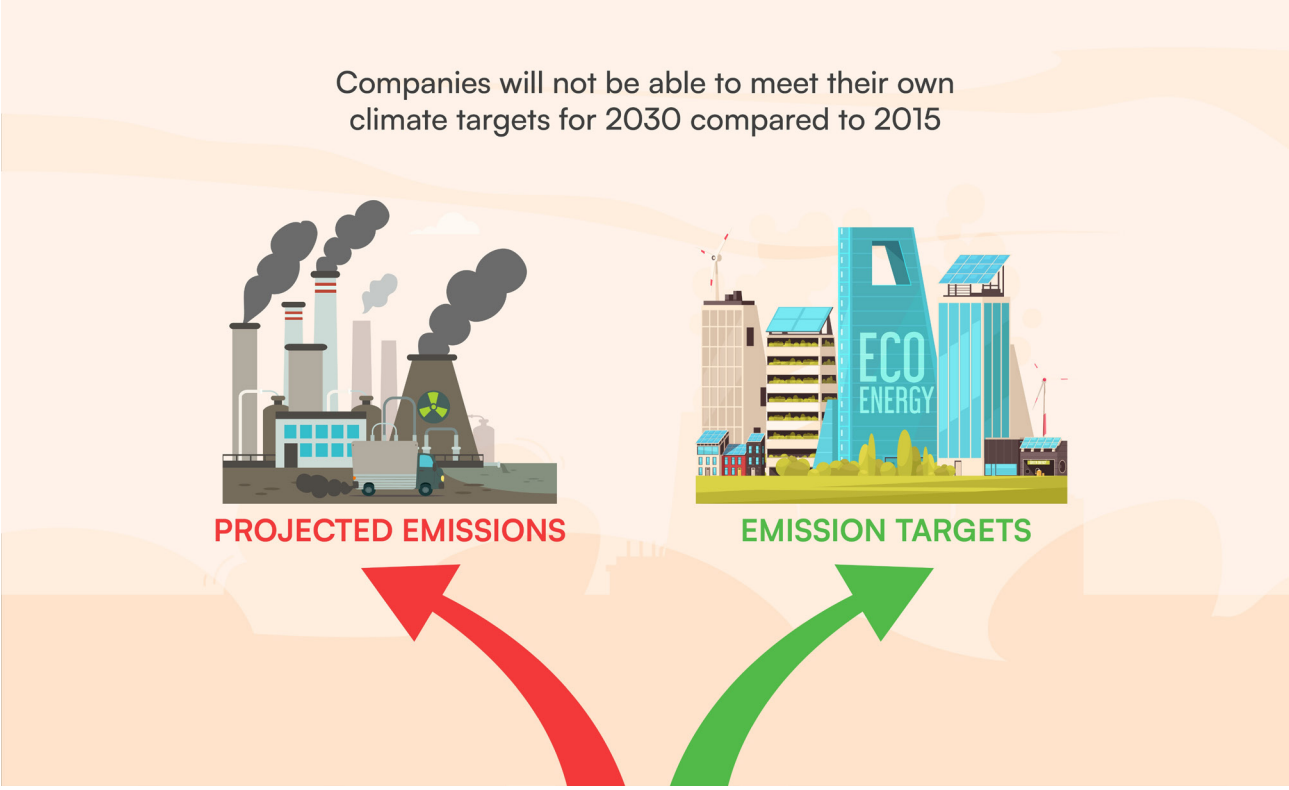


FIGURE 6: Indus Motor's energy saving per year in gigajoules

6.2. Coca-Cola Company

CCP is committed to sustainable and responsible business practices. The company has implemented several initiatives to promote sustainable water use, including a 100% replenishment target for the water it uses in its beverages by 2025. CCP has also launched several initiatives to promote plastic waste reduction, such as the "Clean Pakistan" campaign, which aims to collect and recycle plastic waste. In addition, the company has invested in education and community development programs, such as the "Coca-Cola Education Program," which provides scholarships and educational opportunities to underprivileged children. CCP has positively impacted over 160,000 individuals through its community development programs, and over 2,000 women have benefited from its women's empowerment initiatives. The company has also implemented sustainable sourcing practices and is committed to sourcing 100% of its tea, coffee, and sugar sustainably by 2025. These figures demonstrate CCP's commitment to sustainability and responsible business practices, making it another good example for other companies to follow.



SWOT ANALYSIS

SWOT analysis is a valuable tool for assessing the internal and external factors that can affect the success of a company or organization. By identifying strengths, weaknesses, opportunities, and threats, SWOT analysis provides a structured approach to strategic planning and decision-making. In this report, we have conducted a comprehensive SWOT analysis of IMC and CCP, utilizing a rigorous and systematic analytical framework. The accompanying image presents a concise summary of the key findings of the analysis, providing a visual aid to enhance understanding and communication.

7.1. Indus Motor Company (IMC):

Strengths:

• IMC's commitment to sustainability is demonstrated by its reduction in energy usage per vehicle and the installation of a 4.5 MW solar power system.

• IMC has set clear targets to reduce CO_2 emissions, reflecting a proactive approach to combating climate change.

Weaknesses:

• The lack of a clear reporting structure for different scopes of emissions inhibits transparency and makes it difficult to assess the company's true environmental impact.

Opportunities:

• As part of the "Toyota Environmental Challenge 2050", IMC could benefit from Toyota's global experience and resources in promoting sustainability.

• IMC has the potential to increase the share of solar energy in its total energy consumption, further reducing its GHG emissions.

• There is an opportunity to enhance stakeholder engagement and confidence building through more transparent reporting and communication of sustainability efforts.

Threats:

• Increasing legal and societal pressures to reduce GHG emissions may affect the company's operations and profitability.

• Technological constraints might limit the implementation of certain green initiatives.

• Changes in market conditions could impact the feasibility of IMC's emission reduction targets.

7.2. Coca-Cola İçecek (CCI):

Strengths:

• CCI has demonstrated its commitment to sustainability by significantly reducing carbon emissions and increasing the use of renewable energy.

• The company has implemented successful energy management strategies, including the establishment of a solar power plant.

• CCI has shown a commitment to reducing water and energy utilization rates, which can also lead to cost savings.

Weaknesses:

• Information about CCI's specific efforts to reduce GHG emissions in Pakistan is not provided, which may suggest a lack of localized

sustainability strategies.

• Like IMC, the scope of CCI's GHG emissions reporting is not clear, which may affect the transparency and credibility of its sustainability claims.

• There is limited information on how CCI engages its supply chain in its sustainability efforts.

Opportunities:

• CCI could potentially increase the share of renewable energy in its energy mix, following the global trend and reducing its GHG emissions.

• There is an opportunity for CCI to further optimize its logistics and transportation systems to reduce carbon emissions.

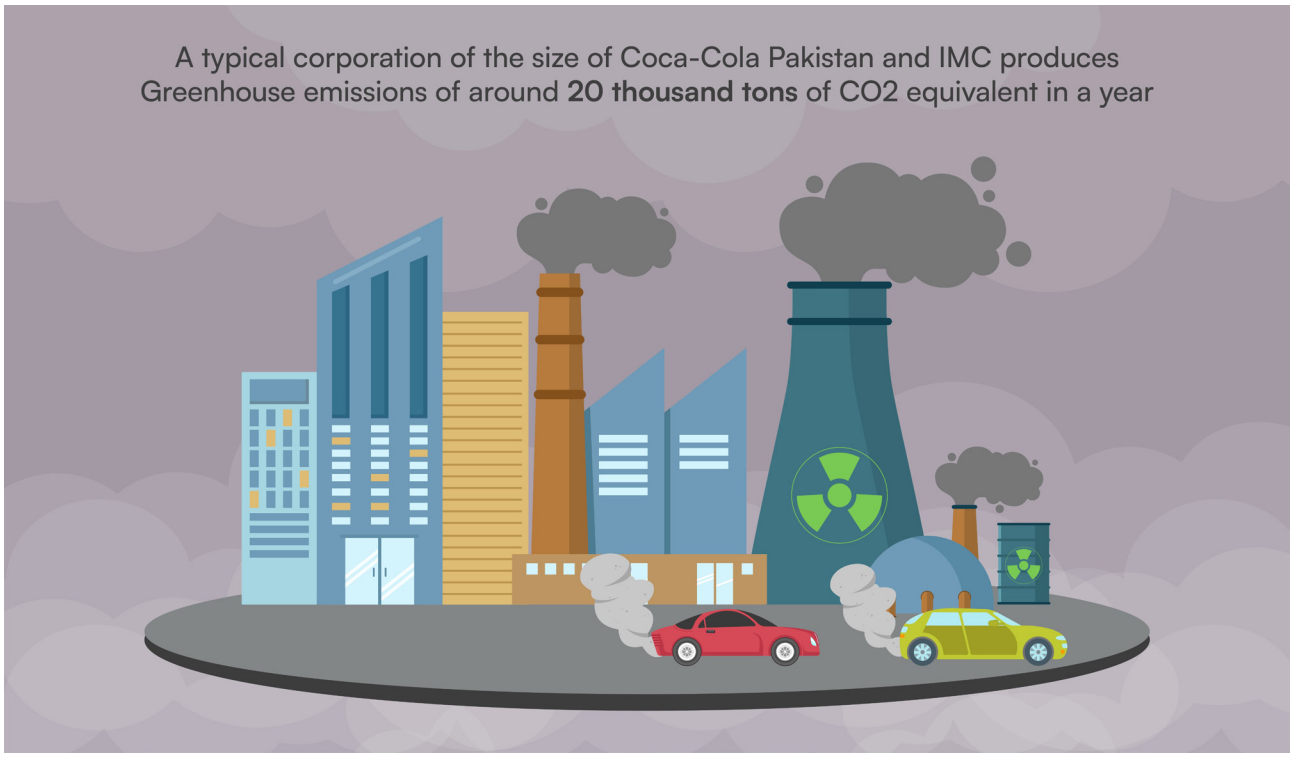
• Enhancing stakeholder engagement and communication of its sustainability efforts can increase stakeholder confidence and support for CCI's initiatives.

Threats:

• Regulatory pressures related to GHG emissions and sustainability could pose challenges to CCI's operations.

• Technological constraints may limit the company's ability to fully transition to renewable energy sources.

• Public perception and demand for environmentally friendly practices may affect the company's reputation and market share if not addressed appropriately.



STAKEHOLDER MAPPING

The Stakeholder Mapping Matrix shows how diverse groups care about and can impact the social responsibility efforts of Indus Motors Company (IMC) and Coca-Cola İçecek (CCI) in Pakistan.

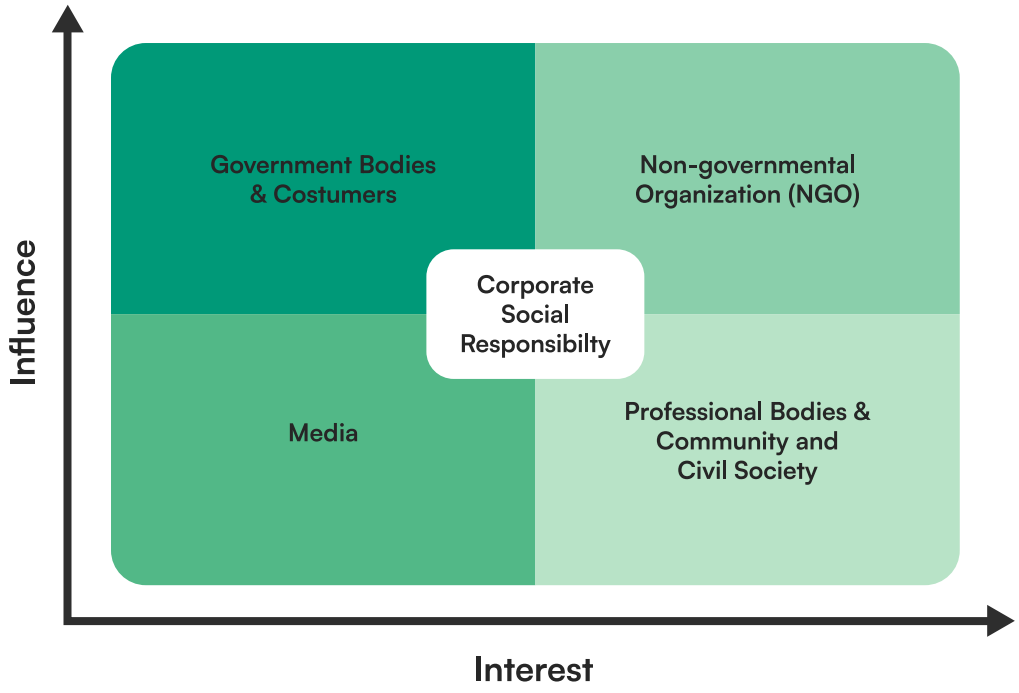


FIGURE 7: Stakeholder mapping for CSR

This matrix is instrumental in gaining a comprehensive understanding of stakeholder dynamics, thereby fostering strategic planning and decision-making processes in CSR activities for these corporations.

Customers:
They can demand sustainable products and practices, influencing the companies to move towards more eco-friendly operations, but, unfortunately, they may have less inherent interest in CSR, especially in Pakistan.

Government Bodies:
Governmental bodies have a high influence on corporate social responsibility (CSR) efforts through regulations and standards, but their direct interest may vary, as their focus extends beyond CSR. Regulatory entities like the Federal Environmental Protection Agency (EPA) set legal limits for emissions and can enforce sustainability standards.

Professional Bodies:
Professional bodies often demonstrate a high level of interest in corporate social responsibility (CSR) due to their focus on promoting ethical and responsible business practices. However, their direct influence on shaping CSR efforts may be comparatively lower, as their influence primarily lies in establishing guidelines and fostering collaboration among stakeholders.

The Karachi Chamber of Commerce and Industry (KCCI) and other professional bodies can influence IMC and CCI through policies and best practices.

Non-governmental organizations (NGOs): Non-governmental organizations (NGOs) typically demonstrate high influence and high interest in corporate social responsibility (CSR) initiatives. They often possess expertise in sustainability and social impact, actively advocate for responsible business practices, and monitor company activities. Through their knowledge, resources, and advocacy efforts, NGOs can exert significant influence on shaping CSR strategies and holding companies accountable for their social and environmental impact. Groups like the Climate Transparency Initiative (CTI) and the Global Green Growth Institute (GGGI) can offer expert advice, guidelines, and support for sustainability initiatives.

Community and Civil Society: Community and civil society groups exhibit varying levels of interest in corporate social responsibility (CSR) initiatives, as they are concerned about the social and environmental impacts of companies. However, their direct influence on shaping CSR efforts may be relatively lower compared to other stakeholders like government bodies and NGOs.

Media: They play a pivotal role in shaping public opinion and can help promote the companies' sustainability initiatives, but the media's influence on corporate social responsibility (CSR) efforts can be limited due to competing priorities and resource constraints, leading to potentially less coverage and interest in CSR initiatives.

ACTION PLAN

9.1. Stakeholder Engagement and Confidence Building:

The Consortium can help IMC and CCI to:

• Identify and engage key stakeholders including employees, suppliers, customers, investors, and governmental bodies such as the Karachi Chamber of Commerce and Industry (KCCI), The Securities and Exchange Commission of Pakistan (SECP), The Pakistan Environmental Protection Agency (Pak-EPA) to reduce the carbon emissions.

• Garner supports through transparent disclosure of sustainability goals, emphasizing environmental, social, and economic benefits.

9.2. Addressing Technological Constraints:

The Consortium can:

• Encourage IMC and CCI to invest in R&D for more sustainable solutions.

• Facilitate the implementation of energy-efficient equipment and technologies, like 100% LED lighting technology and advanced energy management systems.

9.3. Advocacy Groups

The Consortium can:

• Connect IMC and CCI with Advocacy groups and initiatives like The Carbon Trust, The Climate Group, and The Environmental Defense Fund to align sustainability goals with industry best practices.

• Examples of these advocacy groups' successes include: The Carbon Trust, a leading organization in carbon reduction and sustainability, has introduced introductory guidelines to help organizations address Scope 3 emissions. These guidelines focus on reducing emissions that make up a significant portion, typically 70-90%, of an organization's carbon footprint; The Climate Group has introduced a new initiative called EV100+, which aims to address the issue of highly polluting road vehicles. This commitment focuses on phasing out the heaviest and most polluting vehicles from road transport. The initiative has garnered support from five prominent global businesses: Ikea, Unilever, JSW Steel Ltd, A.P Moller - Maersk, and GeoPost / DPD group. Together, these founding members are dedicated to driving the transition towards zero-emission vehicles and promoting a cleaner and more sustainable road transport system.; and The Environmental Defense Fund's engagement with General Motors has contributed to the company's significant announcement to exclusively sell zero-emission vehicles by 2035, representing a transformative step towards sustainable transportation. Additionally, extensive collaboration with Ford has influenced their commitment to have 40% to 50% of their global sales comprised of electric vehicles by 2030, highlighting a strong industry-wide push towards a low-carbon future.

• These advocacy groups employ a number of strategies, including: facilitating the exchange of information about best practices, research, and additional resources, thereby empowering businesses and organizations to learn from one another and develop more effective carbon reduction techniques; advocating for policies that encourage carbon emission reduction, which involves collaboration with government entities to formulate and execute policies promoting renewable energy, energy efficiency,

and other greenhouse gas mitigation measures; providing financial and technical assistance to businesses and organizations striving to reduce their carbon emissions, thereby aiding in the implementation of cost-effective emission reduction measures; and educating the public about the significance of carbon emission reduction, as well as the ways individuals and businesses can contribute, thereby raising public awareness and encouraging active participation.

9.4. Reporting Frameworks

The Consortium can encourage:

• The incorporation of recognized sustainability reporting frameworks, like the Greenhouse Gas Protocol (GGP), The Pakistan Environment Protection Council (Pak-EPA) framework, The Carbon Disclosure Project (CDP), The Sustainability Accounting Standards Board (SASB) reporting, The Task Force on Climate-related Financial Disclosures (TCFD) framework of reporting for better transparency and accountability.

• Regular reporting on progress towards sustainability goals using these frameworks.

9.5. Communication Plan

The Consortium can assist in:

• Developing a comprehensive communication plan to keep stakeholders informed about the progress of sustainability initiatives.

• Identifying the most effective communication channels, including the company website, social media, press releases, and annual sustainability reports using multiple frameworks.

POLICY RECOMMENDATIONS

The following recommendations are made where possibly Indus Corporation can liaise with the corporate sector to combat the climate challenge.

1. Scope 3 emissions are not reported by many companies, the reasons need to be explored in detail, and further research is required. IMC says reliable data is not available. But since estimates put Scope 3 emissions of a typical firm in the range of 60% to 70% of total emissions, progress needs to be made in measuring Scope 3 emissions. Practical steps to measure scope 3 (a) collaborating with upstream and downstream partners and asking them for scope 1 and scope 2 emissions, which will cover a substantial part of scope 3 for the core company (b) in case of IMC fuel consumption data can be collected from a logistic firm that delivers automobiles from IMC plant to 55 dealers across Pakistan.

2. Companies need to conduct energy audits and report transparently. Indus Motors Pakistan has already taken steps towards reducing energy consumption, with a 17% reduction in energy consumption per vehicle since 2015. However, the company should conduct an energy audit to identify further areas for improvement and inform the development of a clean energy transition plan.

3. Set renewable energy targets: As of 2022, Indus Motors Pakistan has saved energy over 19,876 Gigajoules and reduced CO_2, CH_4, and N_2O emissions by over 10,015 metric tons. To continue efforts toward sustainability, the company should set specific, measurable, and achievable renewable energy targets. The targets should aim to source renewable energy for a certain percentage of its operations, with a gradual increase in the share of renewable energy sources over time.

4. Invest in renewable energy infrastructure: Indus Motors Pakistan has already invested in energy-efficient equipment such as LED lights and solar panels to reduce energy consumption. The company should consider investing in renewable energy infrastructure such as wind turbines or geothermal systems to generate clean energy and reduce its reliance on non-renewable sources.

5. Collaborate with utility providers: Both companies should collaborate with utility providers to explore clean energy options. The company can collaborate with providers to install renewable energy infrastructure and explore green energy tariffs.

6. Encourage energy efficiency: Both companies should encourage energy efficiency measures to reduce energy consumption further. The company can invest in energy-efficient lighting, insulation, and smart building systems. By educating employees about energy-efficient practices, Indus Motors can improve its energy efficiency and continue to reduce its environmental impact.

7. Monitor and report progress: Both companies should monitor and report progress towards renewable energy targets regularly. The company can use key performance indicators to track its progress toward achieving its renewable energy targets. This reporting framework will help the company to identify areas for improvement and optimize its clean energy transition plan.

8. Compatibility between local INDCs and MNCs global targets: In the reporting system both companies need to list priorities on national targets set by local laws and with international engagement in the capacity of part of an MNC That will help to harmonies any inconsistencies in these targets.

9. Both companies need to include considerations for the financial aspects of transitioning to clean energy and achieving net zero emissions. If the firms are conducting any internal cost-effectiveness analysis of different renewable energy technologies compared to conventional energy options, then the firms need to report findings in sustainability reports. If not, then they should conduct a cost-benefit analysis of the transition.

10. Coca-Cola İçecek (CCI) and Indus Motor Company (IMC) should consider applying recognized green building certification programs such as LEED, BREEAM, or Green Star as part of their Corporate Social Responsibility (CSR) initiatives. These certifications provide a robust framework for assessing and improving the environmental performance of buildings, demonstrating the companies' commitment to sustainability and responsible business practices.

11. Educating consumers about the benefits of low-carbon transportation options, particularly hybrid vehicles, is paramount. This approach not only paves the way for behavioural shifts but also fosters sustainable driving practices. Offering insights into vehicle efficiency, emission ratings, and the environmental impact of different vehicle choices equips consumers to make enlightened decisions. Highlighting the advantages of hybrid electric vehicles, which present a dual-energy source solution, becomes especially relevant in a country like Pakistan, where a reliable and practical mode of mobility is essential for a diverse range of terrain and infrastructure. Public awareness campaigns and incentives play a pivotal role in bolstering the adoption of these environmentally conscious transportation alternatives.

12. Governmental Bodies should implement stringent emissions standards and regulations to promote low-emission vehicles, provide financial incentives like tax credits or rebates for purchasing eco-friendly cars, set targets for expanding charging infrastructure coupled with subsidies for charging station installations, and support research and development in sustainable transportation technologies by providing grants or subsidies to manufacturers for cleaner vehicle production.

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INFO@INDUSCONSORTIUM.PK
WWW.INDUSCONSORTIUM.PK