



Biological E. Limited
Celebrating Life Everyday



HEALTHIER
PEOPLE,
**HEALTHIER
PLANET.**

Sustainability Report
2021 - 2023
GRI 2021 - In Accordance

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LEADERSHIP MESSAGES

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1.1 Foreword from Managing Director's Desk



Biological E has journeyed far, boasting an industry-leading pipeline that encompasses novel and follow on vaccines.

Dear Friends and Colleagues,

Introducing: Our Sustainability Journey

I am filled with humility and pride to present the fifth edition of Biological E Limited's Sustainability Report. This milestone stands as evidence of the progress we have made since embarking on our sustainability journey in 2014.

A Year of Resilience, Performance, and Agility

In FY22, we were honored with the "Outstanding Export Performance Award" from the Pharmaceutical Export Promotion Council of India (Pharmexcil). Despite facing pandemic-induced supply chain challenges and market fluctuations, we ensured our routine vaccine supplies to WHO, UNICEF, and global governments remained uninterrupted. Our unity and collective effort have brought us here today. Navigating the challenges of the COVID-19 era, we've emerged stronger, more resilient, and better prepared for future uncertainties. Collaborating with the Department of Biotechnology (DBT) and Biotechnology Industry Research Assistance Council (BIRAC), we scaled up CORBEVAX production to approximately 1.2 billion doses per year. Notably, CORBEVAX has earned its place as the safest vaccine in its peer group, demonstrating robust immunogenicity and enduring protection across all age groups, whether as a primary dose or booster.

Pioneering Progress: Our Global Impact

We proudly launched the world's first 14-valent Pneumococcal Conjugate Vaccine (PCV14), named PNEUBEVAX 14. Given that Streptococcus pneumoniae infection remains a leading cause of child mortality in India and developing countries, BE's PCV14 vaccine holds the potential to prevent invasive pneumococcal infections and save countless lives worldwide. Anticipating the near future, we plan to develop a 24-valent Pneumococcal Conjugate Vaccine and introduce our hexavalent product. Building on our strong presence in the pentavalent vaccine sector, we anticipate a market preference shift from penta- to hexavalent vaccines with the inclusion of Inactivated Polio Vaccine (IPV) alongside Diphtheria, Pertussis, Tetanus, Hepatitis-B, and Haemophilus Influenzae Type B (Hib).

Milestones and Aspirations

Biological E has journeyed far, boasting an industry-leading pipeline that encompasses novel and follow-on vaccines.

Fostering Unity

Our pursuits are inspired by the core pillars of our 2025 framework: affordable medicines, water and energy management, employee health and safety, and responsible procurement. By focusing on these aspects, we strive to minimize our environmental impact and drive positive societal

change. Our precautionary approach empowers us to foresee potential risks and take proactive measures to mitigate them. Recognizing that our success relates to stakeholder relationships, we value the partnerships we've cultivated. Our business thrives on community and capable employees. We provide our employees with training to enhance their skills, ensuring alignment with both their career aspirations and our organizational goals. Engaging with communities, we comprehend their challenges. Our CSR priorities include supporting the government's sanitation promotion through Swachh Bharat Mission, providing access to quality healthcare, and offering infrastructure aid to local schools.

Your steadfast commitment, constructive input, and shared vision have molded our achievements and propelled us towards a sustainable future. I extend my gratitude to our dedicated employees, esteemed partners, and stakeholders for their unwavering support. Together, we've reached significant milestones, yet we acknowledge that much work remains.

Warm regards,
Mahima Datla
 Managing Director

1.2 Message from Head Global Strategy & CEO Specialty Generics Injectables & Synthetic Biology



We firmly believe that access to affordable vaccines is a fundamental right and a vital step in achieving global health equity.

Nurturing Sustainability

I am pleased to share with you an inspiring update on our sustainability journey in this reporting cycle. In this report, we are highlighting the significant strides in tackling environment and efforts we have made in meeting the needs of people worldwide, particularly in the critical areas of vaccines and complex injectables.

Purpose and People

Over the years, we have remained steadfast in our mission to improve health and survival of people by providing equitable access to quality vaccines and pharmaceutical products. Our dedication has been instrumental in positively impacting the lives of countless individuals, particularly in underserved communities.

Forging a Sustainable Legacy

Aligned with our sustainability framework for 2025, this report reflects our unwavering commitment to four key pillars: accessible medicines, employee health and safety, responsible procurement practices, water and energy. By focusing on these pillars, we aim to create sustainable value for our stakeholders and contribute to a more inclusive and resilient society. One of our paramount objectives is to improve the health of people through our vaccine development and

manufacturing efforts. We firmly believe that access to affordable vaccines is a fundamental right and a vital step in achieving global health equity. By providing these and prioritizing their accessibility, we are strongly contributing to the United Nations Sustainable Development Goal 3 - "Good Health and Well-being" - ensuring healthier lives for all. Furthermore, our commitment to environmental sustainability and community building is helping us concentrate and attain progress towards all 17 global goals.

Expanding Horizons

In the last two years we have expanded our manufacturing facility in Hyderabad and finalized financing of \$50 million from U.S. International Development Finance Corporation to expand the company's capacity to produce COVID-19 vaccines.

We take great pride in announcing that both our injectable and vaccine facilities at Shamirpet are now approved by the United States Food and Drug Administration (USFDA). The latter is a significant milestone as it is the first of its kind in the vaccine manufacturing industry to receive USFDA approval. Additionally, the USFDA inspection of our Paonta Sahib plant is notable as we have successfully mitigated the regulatory concerns that existed before BE acquired it. The successful inspection is expected to result in further approvals.

In the coming 18-24 months, we will be opening our new R&D centre at Genome Valley, as a world-class pilot facility for developing clinical materials for 4 different products.

Paving the Green Path Ahead

I would like to take this opportunity to thank all our stakeholders for their continued trust and support in our endeavors to create a more sustainable society. With this, I present to you Biological E's Sustainability Report and welcome you to be an active part of our sustainable business journey.

Best Regards,
Narender Dev Mantena
Head Global Strategy & CEO

1.3.1 From The Desk of Chief Operating Officer Vaccine & Branded Formulations



As we embark on this journey towards a sustainable future, I express my gratitude to each of our stakeholders.

Revealing the Eco Odyssey

Welcome to the fifth edition of Biological E Limited's Sustainability report. This Sustainability report serves as a testament to our dedication to sustainability and transparently communicates our progress to our stakeholders. It showcases our achievements, outlines our goals, and emphasizes our commitment to driving positive change in the world.

As we continue to evolve, we take immense pride in consistently producing pediatric and adult vaccines through strategic collaborations, relentless innovation, and unwavering commitment to research. These efforts have not only propelled BE to new heights but have also established us as pioneers in developing and manufacturing generic vaccines for emerging markets. We remain steadfast in our promise to invest in research and development (R&D) to discover, develop, and deliver breakthrough vaccines for patients with unmet medical needs.

The Architecture of Our Sustainability

At Biological E Limited, we recognize the importance of sustainability in preserving our planet and securing a better future for generations to come. Our commitment extends beyond delivering life-saving vaccines; we strive to minimize our environmental impact and foster a greener, more sustainable world. To support this endeavor, we have approved the installation of solar panels at our vaccine facility. This investment in renewable energy will enable us to transition towards cleaner and more sustainable operations.

Harnessing the power of the sun, we will reduce our carbon footprint while contributing to the energy independence and environmental well-being of the local communities.

Our mission to improve global healthcare outcomes drives us to make substantial investments in cutting-edge technologies and innovative research initiatives. Our dedicated R&D team works tirelessly to push the boundaries of medical science. Through collaborations with global leaders, we foster a culture of innovation and knowledge exchange, positioning us at the forefront of healthcare advancements. Through the utilization of cutting-edge R&D, our mission is to tackle healthcare challenges on a global scale, providing equal access to life-changing therapies for individuals across all geographical locations and socioeconomic backgrounds.

Vaccines for the World:

BE currently supplies vaccines to more than 130 countries and its therapeutic products are sold in India, USA, and Europe. We have 8 WHO-prequalified vaccines in our portfolio and a few more under review. Our new vaccine, 14-valent paediatric Pneumococcal Conjugate, (Investigational Pneumococcal Polysaccharide Conjugate Vaccine PCV14) has received approval from the Drugs Controller General of India (DCGI) for manufacture and commercialization in India. Streptococcus pneumoniae infection remains one of the leading causes of death among children under the age of five in India and in developing countries. BE's PCV14 vaccine will help prevent

invasive pneumococcal infection and save millions of lives worldwide. This PCV14 may be administered to infants 6, 10 and 14 weeks of age in 3 doses.

We have also successfully addressed the need of COVID-19 booster doses in India by developing CORBEVAX. It was entirely developed and manufactured by BE in association with Texas Children's Hospital and Baylor College of Medicine.

Further we have been selected as recipient of mRNA technology from the World Health Organisation (WHO) technology transfer hub. WHO and their partners will work with the Indian government and BE to develop a roadmap and put in place the necessary training and support for us to start producing mRNA vaccines as soon as possible.

Charting a Trailblazing Future

As we embark on this journey towards a sustainable future, I express my gratitude to each of our stakeholders. Together, let us forge ahead, championing sustainability in vaccine production and delivery, and contributing to a healthier, more sustainable world for generations to come.

Best Regards,
Lakshminarayana Neti
Chief Operating Officer

1.3.2 Message from Chief Operating Officer Pharma Specialty Generic Injectable



Our journey towards sustainability is intrinsically linked to our mission of enhancing global access to high-quality healthcare.

Sustainability Vignettes

Welcome to the next phase of our Sustainability Report amid a Post-COVID Era. At Biological E Limited, we proudly acknowledge the paramount role we play in safeguarding global health and welfare. Our dedication to sustainability goes beyond mere responsibility; it is a profound commitment to aligning our practices with principles that encompass social, environmental, and economic aspects of our operations.

Synergy of Brilliance

Our vision of being among the top few Indian companies in complex generics and specialty pharmaceuticals by 2025, necessitates us to stay abreast of market trends, thus encouraging us to remain competitive and ahead in our quest for excellence. We firmly believe that sustainability is not a separate endeavor but an integral part of our overarching business objectives.

By intertwining sustainability with our core strategies, we ensure that our actions resonate with our mission, vision, and values, driving our collective success. Embracing material topics empowers us to mitigate risks, seize opportunities, and create shared value for all our stakeholders.

Our journey towards sustainability is intrinsically linked to our mission of enhancing global access to high-quality healthcare. We ardently believe that healthcare should be an unequivocal right for all, which is why we tirelessly work to make our life-saving products affordable and accessible to everyone. We forge strategic partnerships, foster collaborations, and initiate targeted efforts to address unmet medical needs and improve the well-being of underserved communities.

Innovation Meets Accessibility

In recent years, BE has embarked on new initiatives for organizational expansion such as developing specialty injectable products for global markets, exploring synthetic biology and metabolic engineering as a means to manufacture APIs sustainably and developing novel vaccines for markets worldwide. We have achieved significant milestones in receiving Abbreviated New Drug Application (ANDA) approvals from the U.S. Food and Drug Administration (USFDA) for Enoxaparin Sodium Injection USP, Pre-filled Syringes and Pantoprazole Sodium for Injection.

USFDA approval of these two drugs helps us in amplifying the global reach of our pharmaceutical

products. Building on these achievements, we move forward with renewed zeal, harnessing the momentum from our successes and regulatory approvals. Our commitment to developing and delivering high-quality pharmaceutical products that cater to the needs of patients worldwide remains unwavering.

Unyielding Appreciation

I extend heartfelt gratitude to our employees, partners, and stakeholders for their steadfast support and dedication to our sustainability goals. Together, we move forward to create a resilient and sustainable future and leave a lasting impact for generations to come.

Best Regards,
Dr Vishvesh Kumar Bhupathiraju
Chief Operating Officer

02

ABOUT THIS REPORT



The report offers a comprehensive insight into our vaccines and pharmaceutical operations, including both general standard disclosures and detailed performance information, across all our locations.

The Biological E Limited Sustainability Report offers a comprehensive overview of our organization's business strategies, performance, and the inherent value we bring to our stakeholders and society at large. The report is published once in two financial years and is designed to engage and inform a diverse audience, catering primarily to shareholders, investors, and experts in environmental, social, and governance (ESG) analysis.

Our commitment to sustainability is deeply rooted in the United Nations Sustainable Development Goals (UNSDGs), and we have incorporated key principles from the Integrated Reporting (IR) framework, as established by the International Integrated Reporting (IIRC), to ensure a holistic and pertinent approach. Our objective is to provide an insightful account of our sustainability efforts, aligning them with the latest Global Reporting Initiative (GRI) Standards. To achieve this, we meticulously reviewed previous material topics, refining our strategies and action plans to accentuate our commitment to the triple bottom line of sustainability.

In accordance with the GRI guidelines, we have systematically addressed and disclosed information on every significant material topic throughout this report. All the location specific indicators in the report are limited to our pharmaceutical and vaccine business operations within India. The ESG and financial data provided in this report fully captures the company's endeavors and successes during the fiscal years 2021-2022 and 2022-2023 which spanned from April 1st 2021-March 31, 2023.

The report offers a comprehensive insight into our vaccines and

pharmaceutical operations, including both general standard disclosures and detailed performance information, across all our locations. We provide exact performance metrics and accomplishments for the production facilities of our vaccine division located in Shameerpet, Gaganpahad, and Azamabad, as well as for our pharmaceutical company operating from Shameerpet, Patancheru, Azamabad, and Dehradun.

Our Sustainability Report serves as a comprehensive testament to our unwavering dedication to sustainability, offering stakeholders and experts alike a transparent and informative glimpse into our ongoing efforts and accomplishments. Through meticulous adherence to globally recognized standards and frameworks, we remain resolute in our pursuit of a more sustainable and responsible future. Biological E Limited does not include any additional entities in sustainability reporting.

Our commitment to transparency and accountability is exemplified through our voluntary sustainability reporting practices. Once in two years, we release our comprehensive sustainability report, seamlessly integrated with our audited financial report. The reporting of financial metrics is done internally on an annual basis. The reason for making sustainability disclosures once in two years is an internal management decision.

Assurance

As a leading company in the industry, BE follows a practice of gaining the highest level of confidence from all stakeholders by consistently delivering reliable and externally assured sustainability reports.

The content and data disclosed in this report have

been independently verified and externally assured. The conformance of our Sustainability Report FY 2023 with "in accordance" requirements of the GRI Standards has been verified by British Standard Institution (BSI), an independent third-party assurance provider. The report has been assured with the requirements of AA1000 Assurance Standard, AA1000AS (2018) version V3 Type I moderate. and level of assurance is limited. The statement provided by BSI is included in the report. Forward Looking Statement- The report includes forward looking statements based on certain assumptions and management plans. In the report, these statements have been identified by words such as 'intend', 'anticipate', 'believe', 'expect', 'project', 'plan', etc., as far as possible. Should they materialize, the achievement of the projections is subject to risks and uncertainties.

Restatement

This report restates the Scope 1 emission due to calculation error and Scope 2 emission due to an update in the grid electricity emission factor for FY 2019-20 and FY 2020-21. We noticed a decrease in scope 1 GHG emission by 99.76 % in current reporting period (2021-23) compared with previous reporting period (2019-21) because of human error. After correction, there is an increase in Scope 1 emission by 38.29% in current reporting period (2021-23) compared with previous reporting period (2019-2021). We also identified an increase in Scope 2 GHG emission by 31.96 % in current reporting period (2021-23) compared with previous reporting period (2019-21). No other restatements have been identified in the report.



03

SUSTAINABILITY
HIGHLIGHTS

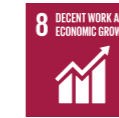
Sustainability Highlights



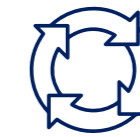
Dispensing hope by administering Over **650 Million doses of vaccine** to children across the globe, have seen a 10% increase over the previous reporting period.



70% of our requirements are through local sourcing



35% increase in total work force over the previous reporting period.



Embracing innovation, the Gaganpahad, Dehradun, and Azamabad facilities achieve a remarkable feat: **100% water recycling**, echoing our commitment to sustainability



Cumulative environmental expenditure of **121.39 million**, a threefold increase over the previous reporting period



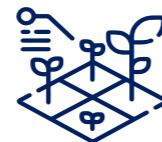
20% increase in total procurement budget spent, towards local suppliers over the previous reporting period



We aim to harness **2 MW of solar energy** by next year and increase renewable energy



Staggering rise of **84% in CSR spent of 144 million**, towards women skill development and community health care over the previous reporting period



More than **3000 Saplings** planted across all facilities.



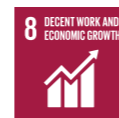
60% Increase in female workforce over the previous reporting period



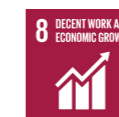
“Zero” reportable incidents during the reporting period, showcases the commitment to safety, health and environment



FI projects have successfully saved a staggering of **3.5 million** and idea projects saved up to **25.2 million**, embodying operational excellence at its finest.



65% increase in Net sale value, over the previous reporting period



65% Increase in economic value retained, over the previous reporting period



A **4% increase** in the total water reused and recycled on total water withdrawal, over the last reporting period.

04

ABOUT **BIOLOGICAL E. LIMITED**

- 4.1 Company Overview
- 4.2 Our Vision & Mission
- 4.3 Our Growth Story
- 4.4 Our Global Footprint
- 4.5 Our Market Presence
- 4.6 Accolades
 - 4.6.1 Leadership Excellence
- 4.7 Memberships and Associations
- 4.8 Paradigm Preparedness
- 4.9 Our Governance Model
 - 4.9.1 Corporate Governance
 - 4.9.2 Organizational Hierarchy
 - 4.9.3 Risk Management
- 4.10 Sustainability Governance
- 4.11 Business Ethics

4.1 Company Overview

Founded in 1953 under the name Biological Products Private Limited, our company embarked on a journey focused on the production of generic biological products, including vital heparin injections—an anticoagulant crucial for preventing blood clots—specifically catering to the Indian market. The year 1963 marked a significant milestone as we entered an equity partnership with Evans Medical, a distinguished pharmaceutical and vaccine manufacturer based in the UK. This alliance prompted a rechristening, leading to our new identity as Biological Evans Limited. The subsequent evolution brought us to our current form as Biological E. Limited, a private owned entity headquartered in Hyderabad, Telangana. A vanguard in the Indian vaccine landscape, we continually push boundaries to broaden our offerings and set

unprecedented benchmarks. A testament to our pioneering spirit, we take pride in being India's inaugural private-sector biological products company. At the heart of our operation lies an unwavering dedication to our core values and a steadfast commitment to quality-driven customer-centric policies, fuelling our strategic investments in cutting-edge systems and robust infrastructure.

Our vaccine division commands a prominent position as one of the foremost manufacturers across emerging markets. A remarkable feat, this division contributes significantly, contributing to nearly 60 per cent of our total revenue. On our home turf of India, our marketing approach revolves around a business-to-business (B2B) strategy, while on the

international stage, we blend both business-to-business (B2B) and business-to-consumer (B2C) tactics. A testament to our product excellence, our offerings have played a pivotal role in supplying pharmaceuticals and vaccines to esteemed institutions such as the Indian defence forces, and national and international governmental agencies. We have also made direct contributions through international exports. As our journey of innovation and expansion continues, our dedication remains unwavering—delivering top-tier healthcare solutions that create a profound positive impact on public health both within our nation's borders and on the international stage.

4.2 Our Vision & Mission



The founder of Biological E Limited, the late Dr Vijay Kumar Datla, was a strong proponent of encouraging individual growth and learning within an organization. We are dedicated to improving human life by making our products equally accessible to everyone in alignment with his vision.



Vision

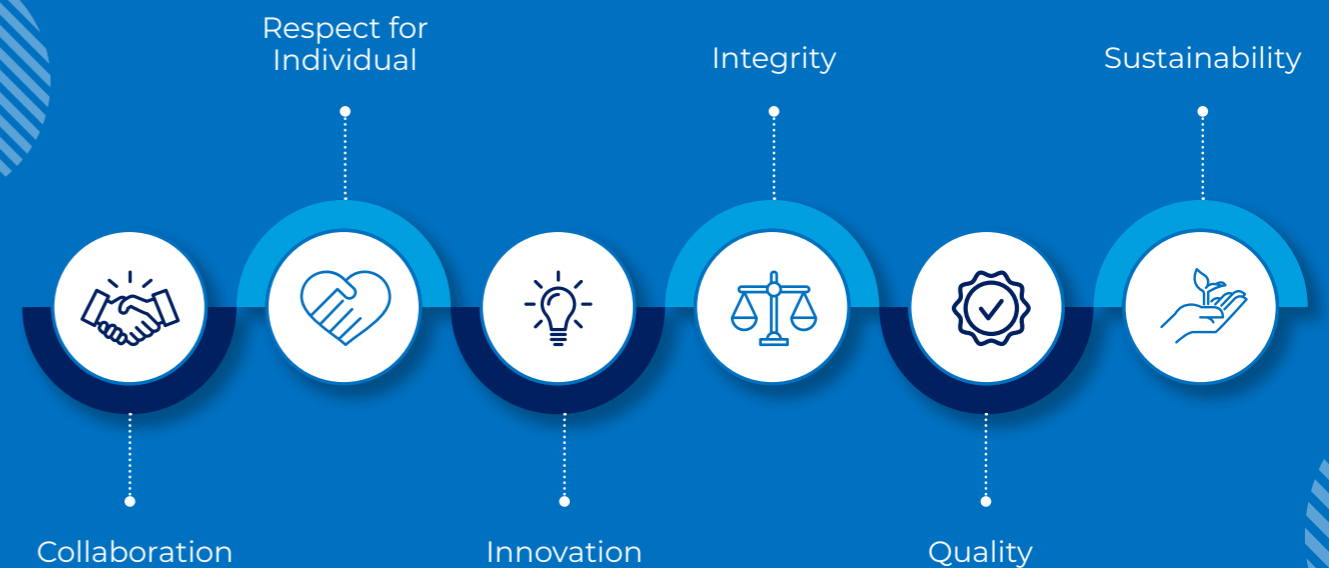
By 2025, we aspire to become the largest Indian vaccines company and stand among the top Indian companies in complex generics and specialty pharmaceuticals.



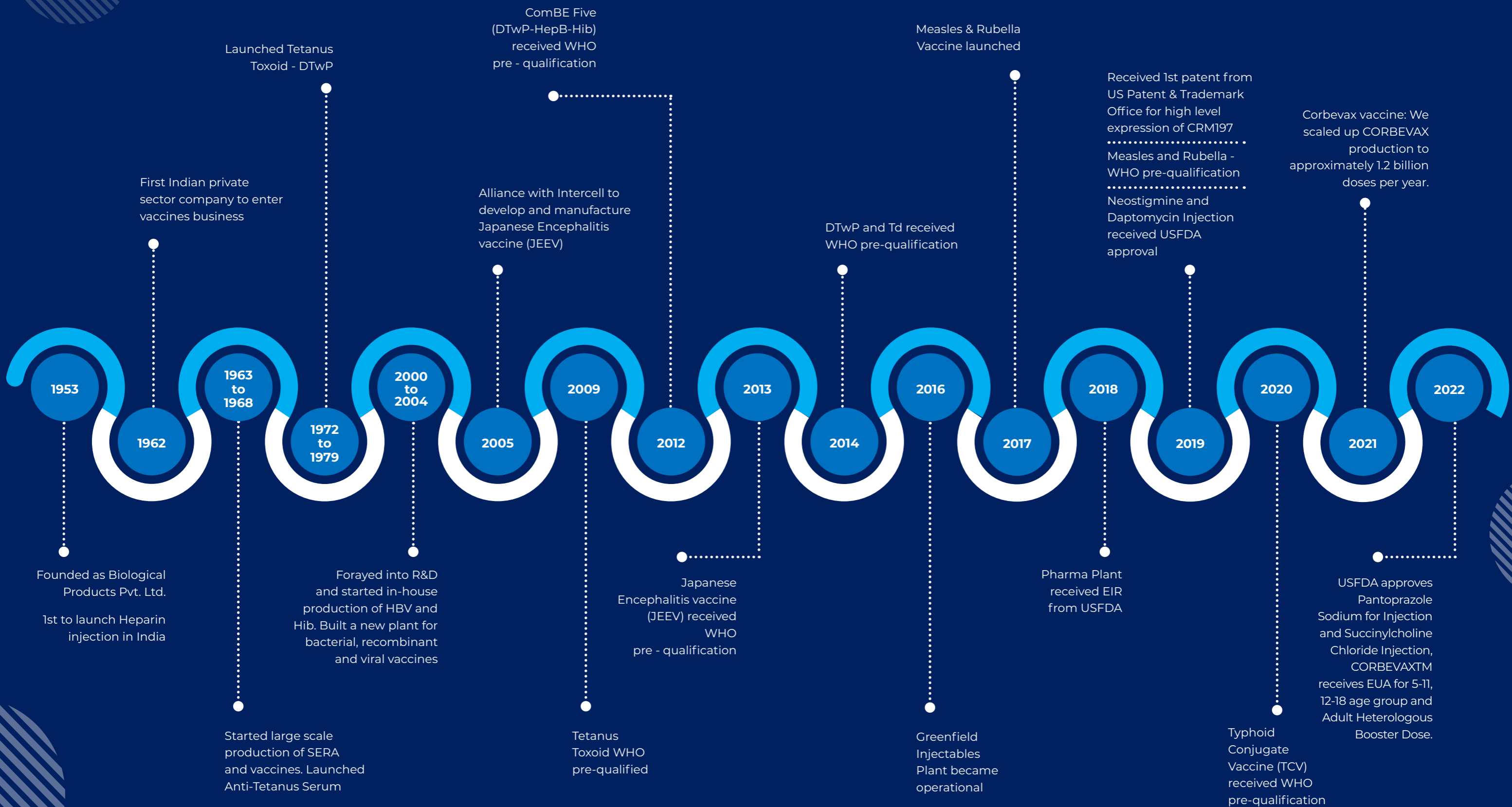
Mission

Our mission is to enhance the health and survival of people by providing equitable access to high-quality vaccines and pharmaceutical products.

Core Values



4.3 Our Growth Story



4.4 Our Global Footprint



We are the one of the oldest companies in the biopharma sector. Along with our operations in India, Singapore, and San Francisco, we export APIs, Finished Formulations and Biologics to over 130 countries. All our vaccines are actively sought and widely embraced throughout all our operational countries.



Offices

Countries where our products are exported

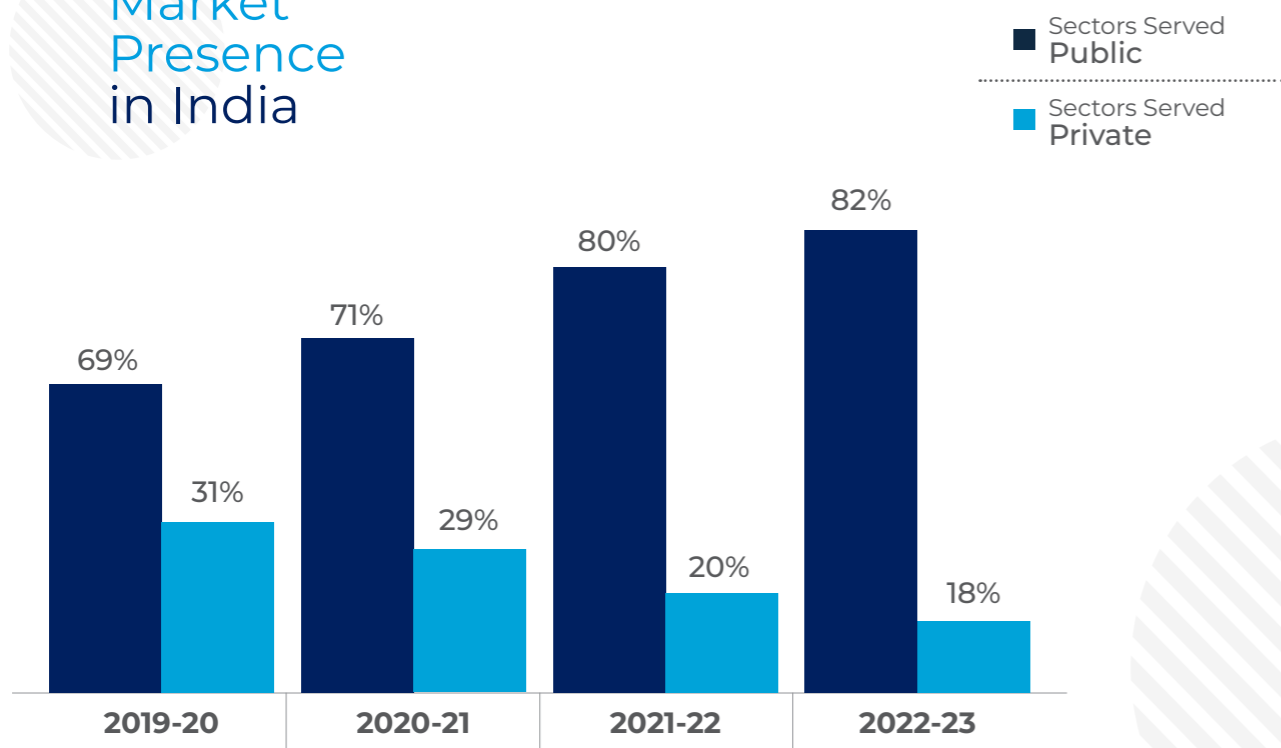
Countries we operate	India, Singapore and San Francisco
Head Office	Hyderabad - Azamabad
Corporate Office	Hyderabad - Jubilee Hills
Vaccine Division	Hyderabad - Shameerpet, Azamabad and Gaganpahad
Pharma Division	Hyderabad - Patancheru, Shameerpet and Azamabad; and Uttarakhand- Dehradun
R&D Units	Hyderabad - Shameerpet Pilot & RD - Vaccine MN Park Pharma R&D - IKP
Marketing and Sales Office	Hyderabad, Delhi and Singapore

The scale of our organization

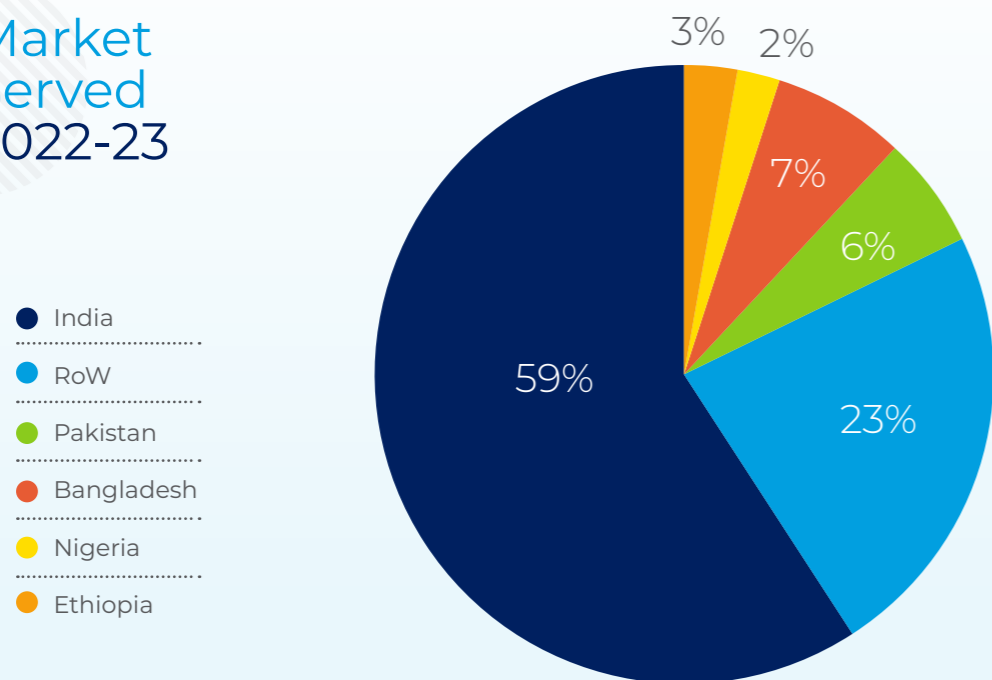
Parameters	2022-23	2021-22	2020-21	2019-20
Net Sales (in Lakhs INR)	3,65,937.89	2,47,578.44	1,22,761.1	92,117.81
Equity (in Lakhs INR)	3,00,324.55	2,12,001.54	172,807.59	1,56,588.47
Debt (in Lakhs INR)	1,94,098.47	1,79,823.52	86,756.72	81,463.89
Contribution of Sales in India (%)	59%	74%	45%	59%
Total Quantity of Products Sold - Vaccine (in MDS)	342.09	319.70	316.52	284.00
Total Quantity of Products Sold - Pharma (in Crores)	18.12	19.41	17.96	15.18
Total Production - Vaccine (in MDS)	332.00	314.00	452.67	372.46
Total Production - Pharma (in Crores)	12.99	16.73	15.25	12.92

4.5 Our Market Presence

Market Presence in India



Market Served 2022-23



4.6 Accolades

The reporting period witnessed us reach important milestones, including awards, recognition for operational excellence, and significant strategic and investment announcements. These accomplishments demonstrate our commitment to innovation and excellence as well as our position as an industry leader.



Ms. Mahima Datla received the “Business person of the Year Award 2021-22” from Biospectrum

4.6.1 Leadership Excellence



Ms. Mahima Datla received Dr. B.S. Bajaj Memorial Award for introducing CORBEVAX on February 25, 2022



Biological E Limited received an award at the third edition of the Insights CXO Awards 2022 in Mumbai on July 28, 2022. Received award in Cyber Warriors category



Dr. Rajendra Burki Vice President, Research & Development, Vaccine Division received Excellence in Biopharma Leadership. This award is presented to leaders who make significant contributions to the field of vaccines

Operation Excellence



BE wins Gold Award from Business World of Excellence in Manufacturing Supply Chain at the Supply Chain Resilience Summit and Awards organised by Business World on November 18, 2022



BE received India Excellence in Packaging, Design and Development Award at India Packaging Awards on 9th June 2022



Biological E. Limited won three awards from the Institute for Supply Chain Management, India (ISM-INDIA) for excellence in our procurement and supply chain management (SCM) on July 29, 2022 in Mumbai

Key Partnerships



Mahima Datla, M.D and Narender Dev Mantena, CEO met Honourable Prime Minister Sri. Narendra Modi garu to discuss COVID-19 research and expanding capabilities



DFC and Biological E.Limited finalize financing arrangements to expand Covid-19 Vaccine manufacturing capabilities in India

Launch and Foundation



We launched Warehouse Management system on October 3, 2022 in Warehouse II at Shamirpet



Ms.Mahima Datla, Managing Director, Laid the foundation for a green field R&D park at Lalgadimalakpet

Biological.E Limited received an Abbreviated New Drug Application (ANDA) Tentative approval from the U.S Food and Drug Administration for Pantaprazole sodium for injection



4.7 Memberships and Associations

At Biological E. Limited, we place profound significance on the power of collaboration and partnership as driving forces behind the inception of sustainable solutions and the propagation of industry best practices. Our unwavering engagement in memberships and associations that seamlessly align with our commitment to sustainability, innovation, and ethical business conduct is a testament to our resolute dedication. These alliances underscore our active contribution to the collective endeavor of propelling sustainable development, thereby leaving a lasting positive imprint on both society and the environment.

Our multifaceted presence within an array of business and industrial associations ensures that we remain at the forefront of emerging industry trends and superior practices. These invaluable affiliations offer us privileged insights, enabling us to craft and influence public policy while also steering the trajectory of decision-making processes. Furthermore, our association involvements foster a profound comprehension of stakeholder expectations, thus nurturing meaningful dialogues and collaborative efforts with esteemed industry bodies, scholarly institutions, and other pertinent entities.

The extensive participation we exhibit across diverse platforms emboldens partnerships with concurring entities, united in confronting industry-specific challenges collectively. We

are acutely attuned to the imperativeness of cohesive action in our dynamic present-day landscape, harnessing these synergies to bolster our internal capabilities and shepherd forth sustainable outcomes. A prime illustration of this collaborative prowess is vividly illustrated in our pivotal contribution to the development of COVID vaccines—an endeavor that stands as a testament to our collective breakthrough achievements.

In tandem with our fervent ethos, our sustainability pursuits are intricately interwoven with the United Nations Sustainable Development Goals (UNSDGs), affording tangible testament to our steadfast resolve in forging a wholesome and enduring societal and environmental impact. Our proactive involvement within memberships and associations resonates profoundly in our unwavering dedication to contributing to the attainment of these global milestones, steering us resolutely towards a sustainable future.

By engaging in these synergetic partnerships and associations, we fortify our pledge to sustainability, conscientious business practices, and vibrant industry cooperation. Through synchronized efforts, the exchange of knowledge, and the orchestration of collaborative endeavors, we stand poised to be architects of transformative change, thereby crafting a world of enhanced prospects for generations yet to come.



Our multifaceted presence within an array of business and industrial associations ensures that we remain at the forefront of emerging industry trends and superior practices.

Bulk Drug Manufacturing Association India	Hyderabad Management Association	Telangana Chambers of Commerce and Industry
National Safety Council	World Health Organization	Sheel Technologies
Federation of Indian Chambers of Commerce and Industry	Pharmaceuticals Export Promotion Council of India (Pharmexcil)"	Pan American Health Organization
Global Alliance for Vaccines and Immunizations	Confederation of Indian Industry	Developing Countries Vaccine Manufacturer's Network
	British Standards Institution	

4.8 Paradigm Preparedness

Our Board-level committees and functional heads continuously assess business risks and opportunities through dedicated risk management procedures in line with our steadfast commitment to sustainability. This commitment encourages us to take a proactive approach to a range of problems, including those involving product integrity, environmental stewardship, and safety assurances. The strict adherence to globally recognised benchmarks is essential to our strategy, as demonstrated by our adoption of ISO 14001, ISO 45001, and ISO 50001 standards across carefully selected production facilities. In addition to guaranteeing regulatory compliance, this uncompromising adherence also highlights the immaculate foundation of our company's business outlook.

In the contemporary digital landscape, the pivotal significance of IT security is acutely acknowledged. To confront the evolving realm of cyber security risks head-on, we have implemented a comprehensive IT security management system. Our proactive endeavors extend beyond mere systems, encompassing targeted training initiatives meticulously designed to cultivate a heightened sense of cyber security awareness

within our workforce. Illustrative evidence of our resilience emerged amidst the challenges of pandemic-induced lockdowns. The imperative of fortified cyber security measures was accentuated, ensuring the seamless continuation of our operations. By embracing a precautionary paradigm and executing agile strategies, we adeptly devised and implemented an efficacious business continuity blueprint, facilitating the uninterrupted operation of all manufacturing units even in the throes of COVID-19 restrictions.

Our strategic planning charts a course that extends beyond the horizon. Strategic alliances and collaborations stand as a testament to our forward-thinking spirit, notably exemplified by our concerted endeavors in vaccine development and the steadfast expansion of our manufacturing expertise within the Indian landscape. This approach encapsulates our tenet of resilience and unwavering dedication, positioning us optimally to confront both present and future challenges.

Our unwavering commitment centres on maintaining the sustained vitality and seamless continuation of our business while defending the significant

This approach encapsulates our tenet of resilience and unwavering dedication, positioning us optimally to confront both present and future challenges.

interests and well-being of our esteemed stakeholders as we weave this intricate tapestry of proactive measures and cooperative endeavours. Our unrelenting pursuit of sustainable business practises is supported by this harmonious confluence of ideals, foresight, and operational excellence.

4.9 Our Governance Model

4.9.1 Corporate Governance

Our robust governance framework places a strong emphasis on professional business conduct, ensuring accountability, transparency, and fairness in all our transactions. These guidelines define the roles and responsibilities of each member of the Board or committees, designed to safeguard the best interests of our stakeholders. To achieve our corporate goals, the Governance Committee strategizes and continuously adopts best practices from international codes and practices of global companies.

Currently reported based on independence, our highly experienced Board of Directors, which supervises our company's operations, offers crucial guidance and

recommendations. Their depth of knowledge, variety of expertise, and range of abilities have helped build a solid framework for corporate governance. As ours is a privately held company, the Board, is chaired by our Managing Director who is the senior most executive. The Board provides input and gives its approval on significant issues that affect our sustainability objectives. Our operational excellence team, working with important resources, is essential to the accomplishment of our projects. The Board regularly assesses overall performance and makes sure that strategy, leadership development, innovation, talent retention, and incentive distribution are carried out effectively.

The senior management, empowered with functional freedom, is responsible for achieving their respective operational goals. Through the Managing Director, they provide the Board with monthly performance reports. The Board and all functional heads carefully study these reports, as well as the organization's governance policies, risk and compliance structure, and business strategies, to find underlying risks and opportunities.

Our Board had three members throughout the reporting period. To advance our company's operations and safeguard the interests of our esteemed stakeholders, we are persistent in preserving the principles of good corporate governance.

DIN	Name	Designation	Tenure / Date of Appointment	Gender	Age / Date of Birth
00965039	Mahima Datla	Managing Director	10/04/2013	Female	16/07/1977
00481367	I. Y. R. Krishna Rao	Independent Director	23/05/2017	Male	22/01/1956
07831823	M. Mahendar Reddy	Additional Director	30/05/2023	Male	03/12/1962
07964480	R. Anand Kumar	Whole-time Director	16/10/2017	Male	21/09/1954

4.9.2 Organizational Hierarchy



Below are the various board committees and their functions.

Scientific Advisory Board (SAB)



Distinguished academic and industry researchers constitute our Scientific Advisory Board (SAB). They internally appraise all our Research and Development activities.

Institutional Biosafety Committee (IBSC)



This statutory committee operates from the premises of the institution. The committee includes the head of the institution, scientists engaged in DNA work, a medical expert, and a nominee of the Department of Biotechnology.

Integrated Business Review Committee (IBR)



The IBR Committee is responsible for organizing quarterly performance reviews of various functions of the management. This review team discusses the quarterly progress of the different annual goals.

Institutional Animal Ethics Committee (IAEC)



The IAEC has been constituted under the provisions of the Prevention of Cruelty to Animals Act, 1960 and Breeding of and Experiments on Animals (Control & Supervision) Rules of 1998, 2001 and 2006. The committee comprises a group of distinguished persons, for control and supervision of experiments on animals, performed in the organization.

Audit Committee



The Chairman of the committee is an Independent Director. The committee is responsible for risk identification, strengthening the internal process to review and monitor business risk, the establishment of stringent internal controls, accounting, financial reporting, internal and external audit mechanisms and compliance of the company.

Management Review Board



The Management Review Board is chaired by the Managing Director and mainly focuses on discussing quality-related reports with heads of all departments.

4.9.3 Risk Management

Our collective efforts, marked by a shared determination to mitigate the risks posed by the global health crisis, underscore our commitment to ensuring the sustained vitality of our business.

Our approach to risk management serves as a cornerstone in upholding the stability of our business. It involves a proactive identification of potential risks across our operations, a role that holds immense significance. Our dedicated team of experts, well-versed in risk assessment, undertakes the crucial task of analysing our risk profile and overseeing the risk management framework. Their meticulous efforts revolve around identifying, monitoring, and effectively controlling risks in accordance with the predefined levels established through our risk management process.

Our risk team offers insights to both the Board and senior management. Their comprehensive reports outline the principal risks that bear the potential to influence our pursuit of strategic objectives. Along with its specialist committees focusing on risk management

programmes and internal controls, our audit team delivers an unbiased viewpoint to the table. Their main goal is to give the Board strong assurance, which eventually confirms the effectiveness of our risk management procedures.

Considering the prevailing pandemic-induced challenges, our response is one rooted in collaboration. Our collective efforts, marked by a shared determination to mitigate the risks posed by the global health crisis, underscore our commitment to ensuring the sustained vitality of our business.

Guided by the overarching aim of addressing sector-specific risks, we have methodically executed business strategies. These initiatives are designed to reduce potential risks and are supported by the assistance of our diverse internal functions. They also demonstrate our commitment to strengthening our organization's resilience in the face of uncertainty.

Key Risks	Description
Strategic Risk	
Business continuity	Ensuring business continuity involves navigating a complex landscape of potential risks. Disruptions in the supply chain and regulatory challenges, and the evolving nature of diseases all pose significant threats. As we move out of events like the COVID-19 pandemic, maintaining seamless operations is crucial for our sustained research and development efforts but also for the continued supply of life-saving treatments and vaccines to patients worldwide.
Keeping pace with technological advancements	The fast pace of advancements in technology necessitates continuous investments in R&D infrastructure. We have given due importance to maintaining the competitive edge. By addressing this risk, we foresee an enhanced product line and associated revenue growth.
Reputational Risk	
Counterfeit drugs	The increased availability of counterfeit drugs is a deterrent to both company's reputation and human health. Counterfeit drugs pose a greater risk of litigation because of side effects to consumers. This risk is to be addressed to prove the genuineness of products with suitable measures and relevant approvals from authorities.
Product quality	<p>Non-compliance with good manufacturing practices at any stage of product development and manufacturing could compromise its quality. This could be potentially fatal to human health, on consumption, which would in turn have reputational, regulatory, legal and financial consequences.</p> <p>We comply with all requirements of the USFDA to ensure the manufacture of safe, effective, and high-quality drugs. We also maintain documented information on key aspects such as clinical trials, pharmacokinetics, etc. which are required for approval.</p> <p>Our Clinical and Regulatory Affairs department engages in conducting Phase II to Phase IV clinical research programs for international markets, in compliance with ICH-Good Clinical Practice (GCP) guidelines. With the latest cGMP compliance and WHO-prequalified vaccine facility, we have been able to expand our international presence in almost all countries globally</p>
Compliance Risk	
Evolving regulatory environment	To meet growing stakeholder expectations and the evolving regulatory environment, compliance with operational processes is mandatory. To avoid failure which has time and cost implications, strict control on the development, manufacturing, testing, approval, distribution and marketing of products is necessary.
Compliance requirements of new markets	With the expansion of operations into global markets, regulatory compliances in each country are mandatory. As these vary by nations, non-compliance will have a huge impact due to the associated high costs of sales and marketing litigations.

Key Risks	Description
IP rights	With heavy R&D investments and a continuously evolving product line, it is imperative to ensure Intellectual Property (IP) rights. We ensure compliance with all IP regulations thus preventing any financial repercussions. This would also secure our brand reputation and sustain business success. We have taken-up patents and requisite WHO approvals for our products.
Operational Risk	
Supply chain dissonance	Although we predominantly source from local suppliers, the pandemic has hampered our production.
Cyber security	Increased reliance on digital platforms due to the pandemic has increased concerns around information security. A failure of information technology infrastructure through malicious attacks/hacking could lead to business disruption and severe financial loss.
Data privacy	For maintaining business confidentiality, data privacy is of prime importance. With the onset of the pandemic, increased reliance on digital platforms for data access / remote working has increased the risk of data privacy. This could potentially affect the business operations and thus lead to serious financial loss.
Employee safety, health and environmental risk	Prioritizing employee health and safety alongside environmental considerations is significant for our work in developing critical medical solutions. Maintaining rigorous health and safety protocols is crucial to safeguarding our workforce and the communities we serve. Simultaneously, our commitment to environmental stewardship drives us to adopt sustainable practices that minimize our ecological footprint and contribute to the well-being of the planet. This holistic approach underscores our dedication to not only advancing healthcare but also conducting our operations responsibly and ethically.
Financial Risk	
Product pricing	A dynamic pricing strategy is to be followed to achieve improved margins. Market intelligence on pricing in various geographies is crucial to achieving revenue maximization.

4.10 Sustainability Governance

Establishing a robust sustainability governance system is crucial to showcase our economic, environmental, and social performance to our stakeholders. We believe that sustainable practices, coupled with proactive identification of risks and opportunities, serve as the foundation for enhancing our performance across the triple bottom line. To facilitate our sustainability governance, we have established the 'Safety, Health, and Environment (SHE) and Sustainability Committee,' which plays a pivotal role in overseeing and promoting sustainability practices at Biological E. The committee interacts with all the internal and external stakeholders using surveys, in person discussions and feedback systems. A full fledged stakeholder engagement is performed once every three years and material issues are identified in this exercise.

At Biological E, sustainability is seamlessly integrated into our management structure through the SHE committee. Led by the Chief Operating Officer (COO) and consisting of department heads as core members, the committee diligently reviews our overall sustainability performance and the related management system practices. The responsibilities of each of the functions are assigned to the functional heads and measurement of impact is subsequently cascaded down to employees at site level.

Additionally, the committee ensures compliance with regulatory requirements while aligning with our sustainability goals and SHE objectives.

The functions of the SHE committee extend beyond its regular roles and responsibilities and include:



Developing an all-inclusive approach and providing direction to address safety, health, environmental, and sustainability matters.



Periodically reviewing policies, processes, and systems to recommend continuous improvement measures.



Overseeing the implementation of SHE-related guidelines and policies.

The site-level committee meet monthly during operational review meetings, while management reviews occur biannually.

Ethical business practices are foundational to good governance and compliance with national laws and regulations. We understand that the conduct of our employees directly impacts our relationship with business partners. To uphold ethical standards, we have established a comprehensive “Code of Conduct and Ethics” that provides clear guidelines for employee behaviour. Regular awareness sessions are conducted for directors and employees, covering crucial aspects such as organizational culture, vendor relationships, gender-neutral workplace policies, legal compliance, health and safety practices, conflict of interest avoidance, transparency in actions, protection of confidential information, and more. These sessions aim to ensure ethical decision-making across the organization. Biological E Limited has implemented a policy regarding conflict of

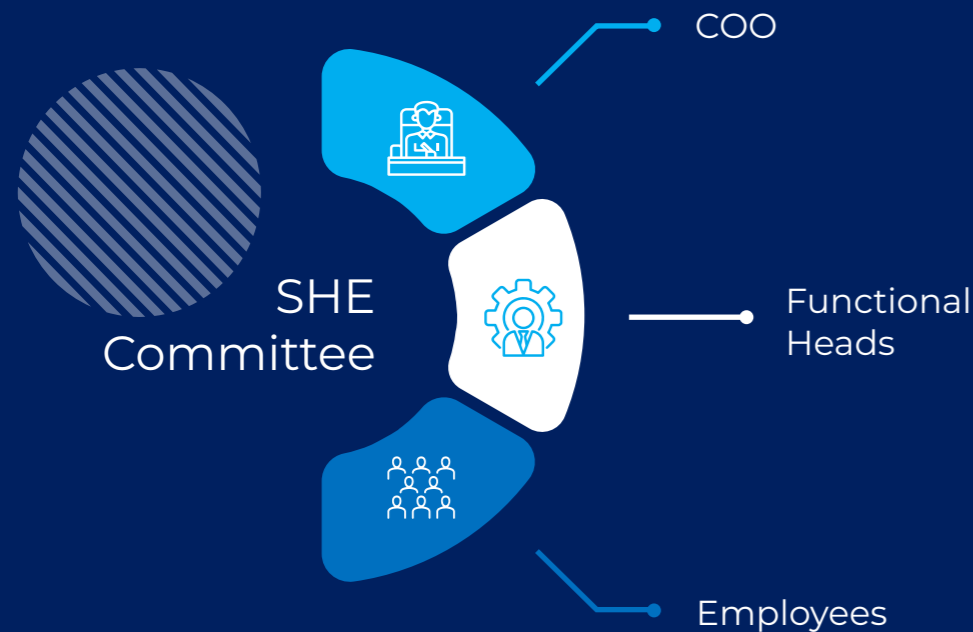
interest, outlined in their Ethics handbook. This policy aims to effectively manage and mitigate any conflicts of interest that may arise within the company.

The Mission, Vision, and Values of our company are deeply ingrained in every employee at Biological E. These principles even influence our goal-setting exercises. Besides regular awareness training sessions, our workforce is consistently informed about these aspects through mailers, posters, and various communication channels initiated by senior management. This continuous reinforcement ensures that all employees remain mindful of responsible working practices. Moreover, we actively encourage our employees to report any observed corrupt practices, and we have a well-defined process in place to handle such reports, ensuring appropriate investigation and action based on validated evidence.



Led by the Chief Operating Officer (COO) and consisting of department heads as core members, the committee diligently reviews our overall sustainability performance and the related management system practices.

4.11 Business Ethics



It outlines the steps taken to identify and address grievances, including the establishment of effective grievance mechanisms.

At Biological E, adherence to ethical business practices in compliance with applicable national laws and regulations is a fundamental pillar of our good governance system.

We recognize the significant impact that our employees' conduct can have on our relationships with business partners. To uphold the highest ethical standards, we have established a comprehensive “Code of Conduct and Ethics” that serves as a guiding framework for employee behaviour. The code of conduct

has been prepared keeping in mind the need for due diligence of processes, application of precautionary principles and global human right laws.

Regular awareness sessions are conducted for our directors and employees, covering crucial aspects such as organizational culture, vendor relationships, promoting a gender-neutral workplace, legal compliance, health and safety practices, conflict of interest avoidance, transparency in all actions, and safeguarding confidential information. These sessions



BE does not have any pending or completed legal actions regarding anti-competitive behaviour and violations of anti-trust and monopoly legislation.

awareness training sessions, we proactively keep our workforce informed about these principles through various communication channels, including mailers, posters, and other modes of communication from senior management. This constant reinforcement ensures that all employees remain vigilant and mindful of responsible working practices. BE does not have any pending or completed legal actions regarding anti-competitive behaviour and violations of anti-trust and monopoly legislation. We actively encourage all our employees to report any instances of corruption that they may observe and we have a defined process in place to handle such reports, which includes appropriate investigation and the collection of validated evidence. The company has conducted assessments on 100% of our value chain to understand potential risk of corruption under organizational control. These risks are actively monitored and managed to prevent any instances of corruption. By fostering a culture of transparency and accountability, we are committed to taking swift and appropriate actions to address any reported issues, ensuring a fair and ethical work environment for all.

- **Whistleblower Policy:** This policy establishes a framework for employees to report any suspected wrongdoing, misconduct, or unethical behavior within the organization. It ensures that concerns are addressed confidentially and appropriately.
- **Grievance Redressal Mechanism:** This mechanism provides a structured process for employees and stakeholders to raise grievances, complaints, or concerns. It ensures a fair and timely resolution of such issues. Furthermore, the highest governance body regularly solicits feedback from the C-suite and leadership team regarding the identified critical concerns. This allows for continuous monitoring and addressing of these concerns.

The process for communicating critical concerns is outlined in the following policies:

Biological E Limited ensures comprehensive coverage of anti-corruption training as part of their induction and refresher training program. This training is mandatory for all employee categories, governance body members, and business partners in the value chain with a 100% participation rate. Additionally, employees receive specific anti-corruption training during the GMP training conducted when they join the company. It is worth noting that there have been no reported cases of corruption within Biological E Limited.

play a pivotal role in fostering a culture of ethical decision-making throughout the organization. Our senior management and the Board oversee the business ethics followed in the company. These are clearly communicated in our employee handbook which is signed by our Managing Director.

The business ethics handbook plays a crucial role in describing the commitments of Biological E Limited to provide for or cooperate in the remediation of negative impacts caused by the organization. It outlines the steps taken to identify and address grievances, including the establishment of effective redressal mechanisms. The handbook also explains how stakeholders, who are the intended users of the grievance mechanisms, are actively involved in the design, review, operation, and improvement of these mechanisms. This ensures that the voices and concerns of stakeholders are considered and incorporated into the remediation processes.

Furthermore, the handbook highlights how Biological E Limited tracks the effectiveness of the grievance mechanisms and other remediation processes. It provides examples of their effectiveness, including feedback received from stakeholders. This enables the organization to continuously evaluate and improve these mechanisms, and to address any negative impacts caused by its operations. Moreover, in matters of compliance BE has upheld a 100% compliance record with all regulations, and there are no documented instances of non-compliance.

The values embedded in our Mission, Vision, and the company's philosophy are instilled from senior management down to every employee at Biological E. This influence extends even to the goal-setting exercise, reinforcing our commitment to ethical practices at every level. In addition to the regular

The business ethics handbook plays a crucial role in describing the commitments of Biological E Limited to provide for or cooperate in the remediation of negative impacts caused by the organization.



05

MANUFACTURING AND INTELLECTUAL CAPITAL

- 5.1 Our Business Excellence
- 5.2 Our Product Portfolio
- 5.3 WHO Prequalified Vaccines
- 5.4 Research and Development
- 5.5 Health System Strengthening
- 5.6 BE Cares

Our company's significant growth and success can be attributed to our extensive presence, which spans over 130 countries. This operational breadth has allowed us to offer a diverse range of high-quality products that are exported globally, contributing to 55% of our total revenue.

To ensure that we remain at the forefront of our industry, we continuously adopt advanced technology and streamlined processes in our manufacturing,

resulting in an improvement in our intellectual capital. This is essential for us to deliver top-tier healthcare products that meet the evolving needs of our customers worldwide.

Our aspirations to become the top Indian vaccines company and secure a leading position in biologics, pharmaceuticals, and active pharmaceutical ingredients (API) are fueled by our unwavering commitment to innovation in discovery, diagnostics, and delivery of

our products. Our dedication to product development is paramount to our progress in these areas. We hold ourselves to the highest standards for product and process quality, ensuring that we seamlessly adapt to evolving regulatory requirements. By adhering to these exacting standards, we continue to strengthen our position in the market and work towards our overarching vision.

5.1 Our Business Excellence

Cultivating a culture of operational excellence at BE serves as a dynamic catalyst for driving improvement across our workforce. The operational excellence team, with robust support from all functional departments, takes charge of training and overseeing functions to ensure an ongoing enhancement in various dimensions encompassing PQCDMS (Productivity, Quality, Cost, Delivery, Safety, Morale).

The 'IDEA - Identify, Develop, Empower, and Achieve' generation campaign is integrated into our efforts to achieve operational excellence. We use the PDCA method for Focused Improvement (FI) projects coupled with two different methodologies, the DMAIC methodology and quality

circles, to increase operational efficiency. We use methods like Kaizen and Phobayuk for IDEA projects, incorporating cutting-edge ideas. A total of 263 projects were identified for the fiscal year 2022, 131 of which were successfully changed. Among them, 76 projects have been carried out, 43 have been finished, and 33 are still being worked on. We've identified 73 projects for FY 2022-2023; 24 of them have already been completed, and one is still in the works. All of them are in line with the FI framework.

Our initiatives cover a wide range of areas, such as process optimization, resource utilization, waste reduction, and technological advancements. Our teams work together to identify opportunities for

improvement, leading to a positive impact on various aspects of our operations. We remain dedicated to promoting a culture of innovation and continuous improvement. We strive to implement projects that drive positive change and align with our overarching goals. As we move forward, we will continue to share the outcomes and benefits of these initiatives, showcasing our commitment to sustainable growth and operational excellence.

Case study: Operational efficiency

Biological E Limited (BE), a pharmaceutical leader, aimed to enhance operational efficiency and achieve cost savings in the CRM 197 batch process. The primary focus was on optimizing decontamination cycle time, directly impacting resource usage, utilities, and overall cost-effectiveness. This initiative, spanning April to September 2022, included streamlining processes to:

- Decrease decontamination cycle time by 50% through process optimization.
 - Maximize Fermenter availability for increased batch production capacity.
 - Eliminate redundant double decontamination in the Kill Tank.
- Results:**
- Increased production capacity due to higher Fermenter availability.
 - Achieved a 50% reduction in utility consumption (steam, power).
 - Attained cost savings of ₹3.15 Lakhs annually through lowered utility usage.

This case study highlights our commitment to operational excellence, resource optimization, and significant cost savings. Our success in reducing decontamination cycle time showcases our dedication to enhancing efficiency and reducing costs.

All other similar initiatives under operational excellence FI underscore few focused improvement projects with cost savings - 335.92 Lakhs.

INITIATIVE & COST SAVINGS

5.7 Lakhs

Reduction in ESIP & FSIP Cycle Time, ~12 hours to 6 hours

3.1 Lakhs

Reduction in cycle time of Decontamination of fermenter post fermentation from ~6 hours to ~3 hours

257.5 Lakhs

Develop & implement a system to enhance Total Employee Involvement (TEI) - Participation in IDEA, 6S & FI Project Execution.

41.6 Lakhs

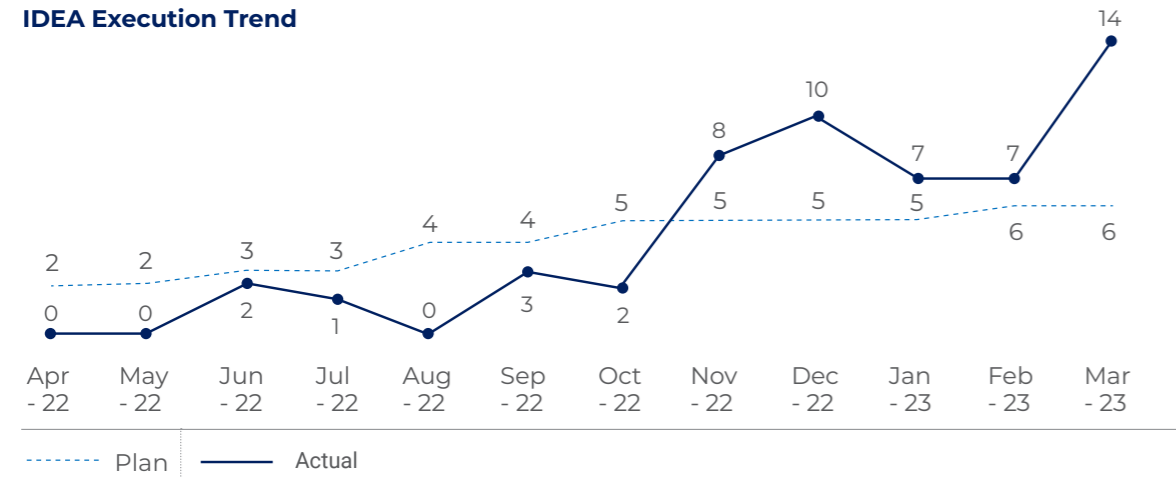
Optimization & Reduction of the Costs involved in Electricity Consumption

28 Lakhs

Optimization & Reduction of the Costs involved in Employment Bus Transport Services

IDEA Projects:

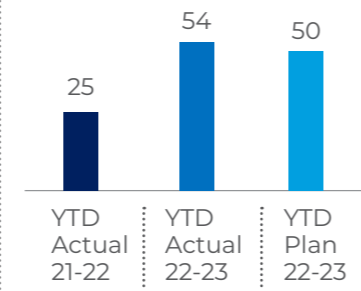
IDEA Execution Trend



The graphs presented above showcase a yearly breakdown of project ideation. These insights offer a comprehensive overview of our progress with regards to project initiation, enhancements, and cost savings resulting from our dedicated efforts.

As part of the IDEA project, we have implemented various initiatives to promote innovation and enhance our organization's performance. We have achieved 252.8 Lakhs cost savings from IDEA projects.

IDEA Execution Trend



Case study: Energy Efficiency Enhancement through Cassette AC Installation at Biological E Limited

Biological E Limited (BE) showcased its dedication to energy conservation through an innovative project that focused on optimizing air conditioning systems. The goal was to reduce power consumption and operational costs linked to the Air Handling Units (AHUs) in the Antisera R&D Block. The initiative included installing Cassette Type AC units to maintain cooling during AHU downtime with some investment.

Results:

- Clean Room AHU power consumption per day dropped by 40.5%, from the year 2022 459 KWH to 273 KWH per day in FY 2023.
- Significant savings in AHU operational and maintenance costs, including parameter recording and spare parts.
- Annual power cost reduction of Rs. 5.97 Lakhs.

This project underscores the value of ideation projects in achieving noteworthy energy savings and operational efficiency. At BE, we're committed to innovative solutions that align with sustainability and operational goals. Our successful air conditioning optimization project demonstrates our dedication to energy conservation and efficiency, with substantial financial and energy consumption benefits

5.2 Our Product Portfolio

The key strategic pillars that empower us to cater effectively to both domestic and international markets revolve around our comprehensive product portfolio. This portfolio can be broadly segmented into three fundamental components, namely:

Biologics

From our maiden products in classical biologics such as Herapin, we continue to innovate and develop new-age genetically engineered biologics. Our enormous breadth of products includes pediatric and adult vaccines which have a significant market share in India. Our current research comprises developing low molecular weight herapins (LMWH), conjugate vaccines and a portfolio of flavivirus vaccines for unmet needs. Massive investments are underway in the development and commercialization of new products. We are also focusing on developed markets in the medium and long term. Our vaccine pipeline includes: -

- PCV 14
- Hep A
- Hexavalent (DTwP-HepB-Hib- IPV)
- Human Papilloma Virus (HPV)
- Inactivated Polio Vaccine (IPV)
- Measles and Rubella (MR)
- Meningococcal Conjugate Vaccine (MCV)
- Mumps
- Novel Oral Polio Vaccine type 2 (nOPV)
- Pneumococcal conjugate Vaccine (PCV)
- Polyoma
- Respiratory Syncytial virus (RSV)
- TdaP
- Typhoid Conjugate Vaccine (TCV)
- Varicella
- Yellow Fever

Our anti-snake venom vaccines (SERA) include:

- Diphtheria Anti Toxin
- Monovalent Snake Antivenom (Africa Specific)
- Polyvalent Snake Antivenom (Asia & Africa Specific)
- Tetanus Anti Toxin

Some of our other vaccines include:

- DT
- HepB (BEVAC)
- Haemophilus influenza type B (Hib)



Pharmaceutical

Our company offers a wide variety of pharmaceutical formulations, including oral medications and injectables. Our branded formulations cover a range of products, such as non-narcotic cough preparations, digestive enzymes and vitamins, anticoagulants, and liver extracts, anti-infectives, antibiotics, and hematinic. We are currently working to establish partnerships with potential customers in both the US and the EU. We are also looking to file at least one injectable ANDA this year. Some of our key brands include: -

- | | | |
|--------------|--------------|-----------|
| • ASVS | • Bipaz | • Lofh |
| • ADS | • Calcium | • Megacef |
| • BE TT | • Cetrorelix | • Obvit |
| • Befer | • Coscopin | • Onecal |
| • Benom | • Coscorest | • PH4 |
| • Berab | • Coscoril | • Raft |
| • Beparin | • Enoxatil | • Sekur |
| • Bestozyme | • G2K | • X Pain |
| • Bethadoxin | • Gaspaz | • Zizant |
| • Bethox | • Leuporelin | |
| • Binex | • Livsure | |

Active Pharmaceutical Ingredients (APIs)

The API division of BE supports the captive consumption needs of the company. Specializing in alkaloids such as Noscipine and its derivatives and biologics such as Heparin, LMWH and PSGAG (Chondroitin Sulphate), BE has committed to ensuring a sustainable quality supply to global markets.



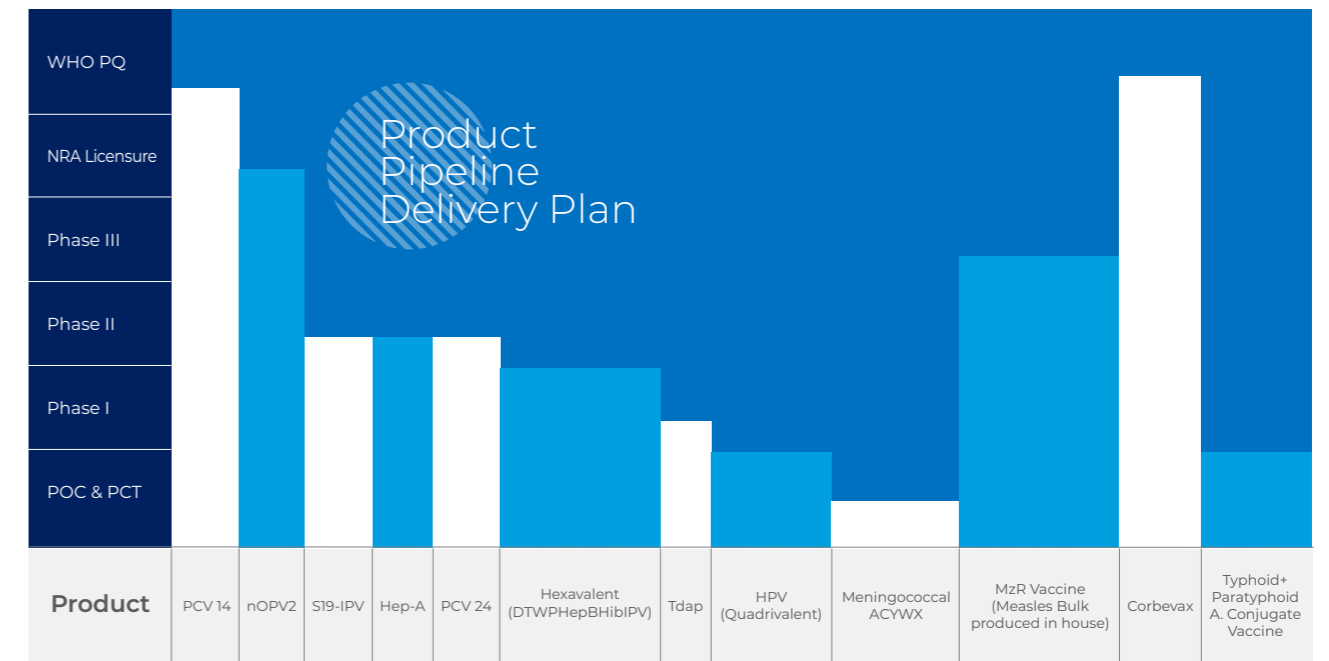
All our products are duly approved by the relevant regulatory bodies.



5.3 WHO Prequalified Vaccines

BE has WHO pre-qualified vaccines and we are one of the most reliable suppliers for the same. We are also constantly undergoing WHO approval processes for new products in our R&D pipeline. The vaccines that are prequalified are:

- Pneumococcal Conjugate Vaccine (14 valent)
- DtwP-HepB-Hib_IPV (Hexavalent)
- DTWP-Hib Vaccine
- Inactivated poliomyelitis Vaccine
- Covid-19 Vaccine
- Hepatitis A Vaccine
- Measles Vaccine
- Pentavalent vaccine (DtwP-rHep-Hib) in liquid form (LPV)
- Pentavalent vaccine (DtwP-rHep-Hib) in lyophilized (freeze-dried powder) form
- Tetanus Toxoid (TT)
- Diphtheria, Tetanus, whole-cell Pertussis (DTwP)
- Tetanus and Diphtheria (Td)
- Japanese Encephalitis (JE)
- Measles and Rubella (MR)
- Typhoid Conjugate Vaccine (TCV) Product



Biological E. is a highly reputable provider of Liquid Pentavalent Vaccine (LPV) and Japanese Encephalitis (JE) vaccine. We are proud to be the exclusive supplier of these vaccines in India, and we have consistently demonstrated our reliability in the industry. In

addition, we recently introduced a new vaccine, Measles and Rubella (MR), which we began distributing in India. We are committed to ensuring the safety and efficacy of all our products, and we remain dedicated to providing high-quality vaccines to our valued customers.

5.4 Research and Development

Their proactive approach enables us to address health challenges, provide solutions, and cater to local needs. In the field of medical science, R&D plays a pivotal role in developing treatments using genetic knowledge about diseases.

The Research and Development team is at the core of our intellectual capital. They are consistently working to upgrade, innovate, and introduce new products using our scientific and technological resources. Their proactive approach enables us to address health challenges, provide solutions, and cater to local needs. In the field of medical science, R&D plays a pivotal role in developing treatments using genetic knowledge about diseases. This foundation leads to next-generation therapies, improved healthcare, and financial growth.

At Biological E, we recognize the significance of R&D in our business growth and prioritize it with substantial investments. By fostering innovation and ensuring accessibility, we sustain the healthcare ecosystem and pave the way for groundbreaking

medicines. Our ultimate goal is to lead in therapeutic innovation and pursue transformative science, resulting in life-enhancing medications. As we work towards a sustainable future through collaboration, we prioritize the health and safety implications of our products, ensuring access to safe medicines for all.

In addition to prioritizing safety, we have implemented a rigorous system to consistently monitor and safeguard our intellectual property (IP) rights at every stage of product development. In addition to prioritizing safety, we have implemented a rigorous system to consistently monitor and safeguard our intellectual property (IP) rights at every stage of product development. Here is a quick overview of the patents we currently possess.



Regulatory Authority	FY 2021-2022	FY 2022-23
Overall Filings	6- Filings (USA/EMA/Brazil/Canada/China) 7- Filings (Emerging markets)	7- Filings (USA/EMA/Brazil/Australia) 18-Filings (Emerging markets)
Overall Approvals	3- Approvals (USA/EMA) 2- Approvals (Emerging markets)	5- Approvals (USA/EMA/Canada/china) 3- Approvals (Emerging markets)
US - ANDA Filings	1 -Filing Pantoprazole – April 30, 2021	3 - Filings Phenylephrine – June 30, 2022, Heparin 50000/10ML – Sep 03, 2022, Heparin-1000/5000/10000 per mL – Oct 18, 2022
US - ANDA Approvals	2-Approvals Sodium Nitroprusside –July 12, 2021 Succinyl Choline – Feb 07, 2022	1-Approval Pantoprazole –May 18, 2022
EMA – Filings	1-Filing Daptomycin – UK National –Tilomed (reliance route)- Submitted on June 30, 2021	1-Filing Daptomycin –RUP –AT(rokitan),CY,EL(cooper) FR(Tilomed) Submitted on Dec 01, 2022
EMA – Approvals	1-Approval Daptomycin –UK National- Tilomed (reliance route) – Sep 14, 2021	2-Approvals Daptomycin –UK National -Zentiva–April 12, 2022 Daptomycin –UK National -Cipla –May 18, 2022
Brazil – Filings	2-Filings Daptomycin-Cipla- May 20, 2021 Daptomycin-ABL- Sep 30, 2021	1-Filing Enoxaparin- Farmavision - December 13, 2022
Brazil – Approvals	NA	NA
Canada– Filings	1-Filing Enoxaparin –FK- October 15, 2021	NA
Canada– Approvals	NA	1-Approval Enoxaparin –FK- October 26, 2022
Australia– Filings	NA	2-Filings Daptomycin-Cipla- June 13, 2022 Fosaprepitant –Medsurge- Dec 30, 2022
Australia– Approvals	NA	NA
China -Filings	1-Filing Daptomycin-ZBD- June 01, 2021	NA
China –Approvals	NA	1-Approval Noscapine-DMF – April 11 2022
Other Emerging Market Countries –Filings	7 – Filings UAE –5 Mexico-1 Israel-1	18 – Filings UAE –3 Thailand-2 South Africa-1 Singapore-1 Nigeria-2 Mexico-6 Colombia-1 Chile-1 Algeria-1
Other Emerging Market Countries –Approvals	2 Approvals Hong Kong – 1 Malaysia-1	3 Approvals South Africa-2 Algeria-1

At our company, we highly value the intellectual property (IP) of others and make it our top priority to avoid any infringements. Our Research and Development team regularly undergoes internal training to ensure they are aware of and committed to respecting IP rights. We have a well-organized governance process in place that guarantees compliance with all relevant legislations in different locations. Our team of internal experts regularly checks product specifications and takes quick corrective measures if necessary.

Our company values the highest quality standards throughout all stages of our research and development process. To support this, we invest ample funds into expanding our R&D facility. Since 2008, Biological E. has invested over USD 100 million in R&D, resulting in six successful vaccine developments. In order to accelerate success in R&D programs, we collaborate with institutions, medical centers, and companies to innovate and contribute to the development of accessible and affordable medicines.

We conduct our own pre-clinical research to support our R&D and regulatory programs, focusing on efficacy and toxicity models. Our pre-clinical testing facilities meet GMP regulations and provide containment for individual

experiments. Our Clinical and Regulatory Affairs department complies with ICH-Good Clinical Practice (GCP) guidelines while conducting Phase II to Phase IV clinical research programs for international markets.

We have several products in our R&D pipeline, including a next-generation Pneumococcal Conjugate Vaccine (PCV) that can fight against more than 20 pneumonia causing serotypes, undergoing Phase II Clinical Trials in humans. We are developing a novel vaccine candidate against polyoma virus for patients planning organ transplantation and patients who are immune suppressed / compromised. A vaccine to protect against four cancer-causing human papilloma virus genotypes is also being developed and has been successfully tested in animals. Material is being manufactured for clinical trials in humans. We are also developing Hexavalent, a next-generation vaccine that adds protection against polio to the existing Pentavalent vaccine. Typhoid Conjugate Vaccine and Inactivated Polio Vaccine (IPV) are also in development. Our biopharmaceutical company focuses on making vaccines with the utmost quality and innovation to cater to global healthcare needs. We see this as an opportunity to serve people and add value to society.



We have several products in our R&D pipeline, including a next-generation Pneumococcal Conjugate Vaccine (PCV) that can fight against more than 20 pneumonia causing serotypes, undergoing Phase II Clinical Trials in humans.

5.5 Health System Strengthening

Biological E Limited is dedicated to sustainable practices and societal well-being. We are taking transformative steps to improve healthcare systems in vaccine production and pharmaceuticals. We understand the important role that a resilient health infrastructure plays in ensuring the global delivery of vital medical solutions. Our goal is to expand accessibility to life-saving vaccines and indispensable pharmaceuticals through purposeful strategic initiatives and investments.

Our pursuits include elevating research and development capabilities, optimizing manufacturing processes, and maintaining an emphasis

on quality and safety. We are committed to contributing meaningfully to disease prevention and treatment, particularly in underserved regions, by aligning our efforts with global health priorities.

At the core of our commitment lies the integration of sustainable practices. We aim to reinforce our operational resilience and resonate throughout the entire healthcare ecosystem. By forging alliances and partnerships with stakeholders across the healthcare spectrum, we aspire to have an enduring influence beyond our organization.

As we navigate the dynamic landscape of vaccine production

and pharmaceuticals, we remain steadfast in our dedication to harnessing innovation, upholding scientific excellence, and adhering to ethical responsibility. Our relentless pursuit of a fortified healthcare system is a manifestation of our core values, propelling us towards a sustainable future where health and prosperity are shared inclusively.

Description	2022--23	2021-22	2020-21
Capex	12,592	24,194	6,960
Opex	25,643	10,631	14,571
R&D investments (in Lakhs INR)	38,235	34,824	21,531



5.6 BE Cares

At BE Cares, we strive to improve healthcare and celebrate life every day. Our commitment is an extension of Biological E Limited's pledge to excellence in healthcare. We provide a platform for medical practitioners to share knowledge, collaborate, and learn continuously. Our goal is to advance healthcare practices and improve patient outcomes. We empower healthcare professionals with the latest research findings, medical advancements, and best practices. This knowledge hub aligns with our vision for

sustainability, positively impacting global health and well-being. By promoting ongoing education and facilitating the exchange of insights, BE Cares assists healthcare professionals in making informed decisions, enhancing diagnostic accuracy, and promoting effective treatment strategies. Our investment in this knowledge hub reflects our dedication to sustainable healthcare practices, supporting our mission to create a healthier, happier, and more sustainable world for all.



Figure 1 Information on health care tv on different diseases

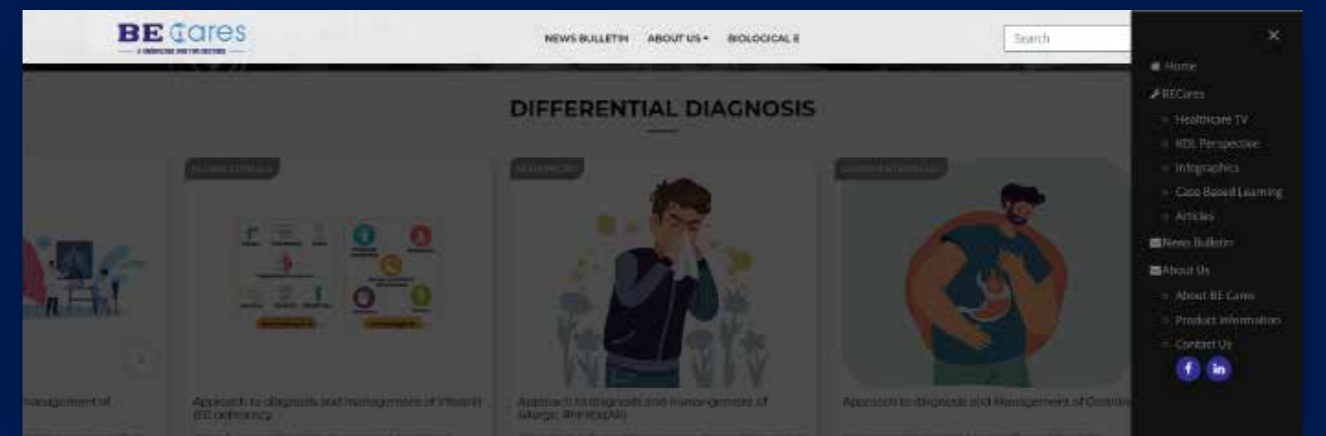


Figure 2 Sample snippet of how BE Care site



Figure 3 Information on products @ BE Care



06

SUSTAINABILITY FY 21-23 HIGHLIGHTS AT BIOLOGICAL E LIMITED

- 6.1 Value Creation Model
- 6.2 Our Goals and Targets
- 6.3 2025 Framework

6.1 Value Creation Model

Inputs

Process

Product Portfolio

Outputs

Outcomes

Human Capital

Emphasis on continuous L&D to drive a performance-oriented culture across our talent pool,
 No. of employees - 3502
 Female to male ratio of employees 7%
 GMP training imparted in man hours - 14962

Natural Capital

Investment in renewable energy - 2 MWH
 Total water consumption - 6,96,116 KL
 Total energy consumption - 14,20,383 GJ
 79 IDEA projects implemented and 21 FI projects identified for cost savings and resource optimization

Financial Capital

Economic Value Generated 3,76,990.09 INR Lakhs
 Operating costs - 665.67 INR Lakhs
 Economic Value Retained - 90,408.23 INR Lakhs

Intellectual Capital

R&D Investment - 38,235 INR Lakhs

Social & Relationship Capital

During the reporting year Spend on CSR activities - 14.4 INR crores



Product Pipeline

- nOPV2
- S19 - IPV
- Hep - A
- PCV 24
- Hexavalent (DTwP-HepB-Hib-IPV)
- Tdap
- HPV (Quadrivalent)
- Meningococcal ACYWx
- MzR Vaccine (Measles bulk produced in house)
- Typhoid + Paratyphoid A Conjugate Vaccine

WHO PQ Vaccines

- Pneumococcal Conjugate Vaccine (14 valent)
- DtwP-HepB-Hib-IPV (Hexavalent)
- DTWP-Hib Vaccine
- Inactivated poliomyelitis Vaccine
- Covid-19 Vaccine
- Hepatitis A Vaccine
- Measles Vaccine
- Pentavalent vaccine (DtwP-rHeb-Hib) in liquid form (LPV)
- Pentavalent vaccine (DtwP-rHeb-Hib) in lyophilized (freeze-dried powder) form
- Tetanus Toxoid (TT)
- Diphtheria, Tetanus, whole-cell Pertussis (DTWP)
- Tetanus and Diphtheria (Td)
- Japanese Encephalitis (JE)
- Measles and Rubella (MR)
- Typhoid Conjugate Vaccine (TCV) Product

Human Capital

Provided performance development reviews for all employees in the reporting period
 LTI (Reporting year) - 0
 100% employee returned to work after parental leave

Natural Capital

Developed new and improved vaccines to address emerging diseases
 Efforts put in to measure and reduce the company's environmental footprint
 Reducing waste and optimizing the manufacturing process to increase output.

Financial Capital

The total income generated from vaccine sales
 Increase company's earnings after deducting all expenses from revenue

Intellectual Capital

No of patents filled - 355
 No of patents granted - 32
 Cost savings due to IDEA and FI- 3.5 crores

Social & Relationship Capital

New suppliers - 1020
 Outreach - over 600 million doses of vaccines for routine immunization to Indian Ministry of Health & Family Welfare
 2 billion doses of multiple vaccines to children across the globe

Human Capital

Vibrant and skilled talent pool
 Safe working environment
 Become the employer of choice

Natural Capital

iPromote use of renewable energy
 Optimize water consumption
 Improved green cover
 Strong advocates of environmental stewardship extending beyond our boundaries. Productive, safe and healthy workplaces for employees

Financial Capital

Sustained cash flows
 Profitable growth

Intellectual Capital

Driving a culture of innovation with WHO Prequalification for vaccines
 Significant player to advance development and manufacture of COVID-19 Vaccine

Social & Relationship Capital

Improved customer satisfaction
 Access to affordable vaccines and medicines
 Zero injuries

6.2 Our Goals and Targets

We are currently working on identifying the essential performance indicators (KPIs) and establishing objectives and targets for our sustainability report in 2024. In this report, we have outlined the advancements made towards goals identified in the last reporting period.

Linking Sustainability Strategy	Focus Areas	Short Term Goals (FY 2023-2024)	Long Term Goals (FY 2025- After)	2021—23 Progress Report
Accessible Medicines	Investment Invest in developing new facilities and new products	Increase investment in vaccine business	Invest in vaccine business for developing new facilities	Announced an investment of 1800 crores across three facilities in Genome Valley at Shameerpet. Foundation laid for state of art R&D facility
	Operational Excellence Implementation of Operational Excellence in all manufacturing facilities	Implement operational excellence in vaccine business	Implement operational excellence in all business divisions	<ul style="list-style-type: none"> Operational Excellence implemented in Shameerpet Vaccines, SEZ, Gaganpahad and Azamabad facilities. 252.8 Lakhs cost savings from IDEA projects 335.92 Lakhs cost savings from Focused improvement projects
Water	Water Management Conduct water audits and water balance assessment	Complete water audits and water balance assessment In vaccine business	Complete water audits and water balance assessment in all business divisions	Increased the use of recycled water, regular water audits. The Gaganpahad, Dehradun, and Azamabad facilities achieve a 100% water recycling
	Management Systems Implementation of ISO14001 and ISO 45001	Implement both ISO14001 and ISO 45001 in vaccine business	Implement both ISO14001 and ISO 45001 in all business divisions	Implemented both ISO14001 and ISO 45001 systems at Shameerpet Pharma
Employee Health and Safety	Zero Accidents Continue to focus on Zero Accidents by establishing a comprehensive incident reporting system	Implement in vaccine business	Implement in all business divisions	Implemented and ensured zero accidents
	Policy Implementation Develop and implement relevant policies on EHS, biodiversity, human rights and non-discrimination	To develop and implement organization-level policies with respect to EHS, human rights, biodiversity and non-discrimination by 2022		The policy has been developed and implemented which specified EHS, and biodiversity
	Employer of Choice Become the employer of choice in the pharmaceutical sector	Implement the BE Connect concept (Inspire, Ignite and Involve) at Shameerpet facility	Implement the concept of BE Connect. To be among the top 5 in the healthcare sector by 2025	BE Connect concept implemented at all sites
Responsible Procurement	Develop a Code of Conduct and Implement 3Ps Practice Develop a supplier Code of Conduct and assess all critical and major suppliers based on environment, health & safety and social practices	Develop and implement a Code of Conduct for suppliers. Set screening criteria based on social and environmental parameters	By 2025 commence on-site audits at critical and major supplier facilities based on environment, health & safety and social (EHSS) practices	On-site audits initiated. These audits cover the compliance of EHS practices by the vendors. Prepared supplier code of conduct and continuing to screen critical suppliers. 100% critical suppliers screened on the basis of Environmental and Social Criteria
Energy	Energy Management Implement ISO 50001	Implement ISO 50001 in the vaccine business	Implement ISO 50001 in all business divisions	Energy audits implemented at sites. Signed proposal for installation of 1 MW rooftop solar power plant at Shameerpet Vaccine and Shameerpet SEZ

6.3 2025 Framework



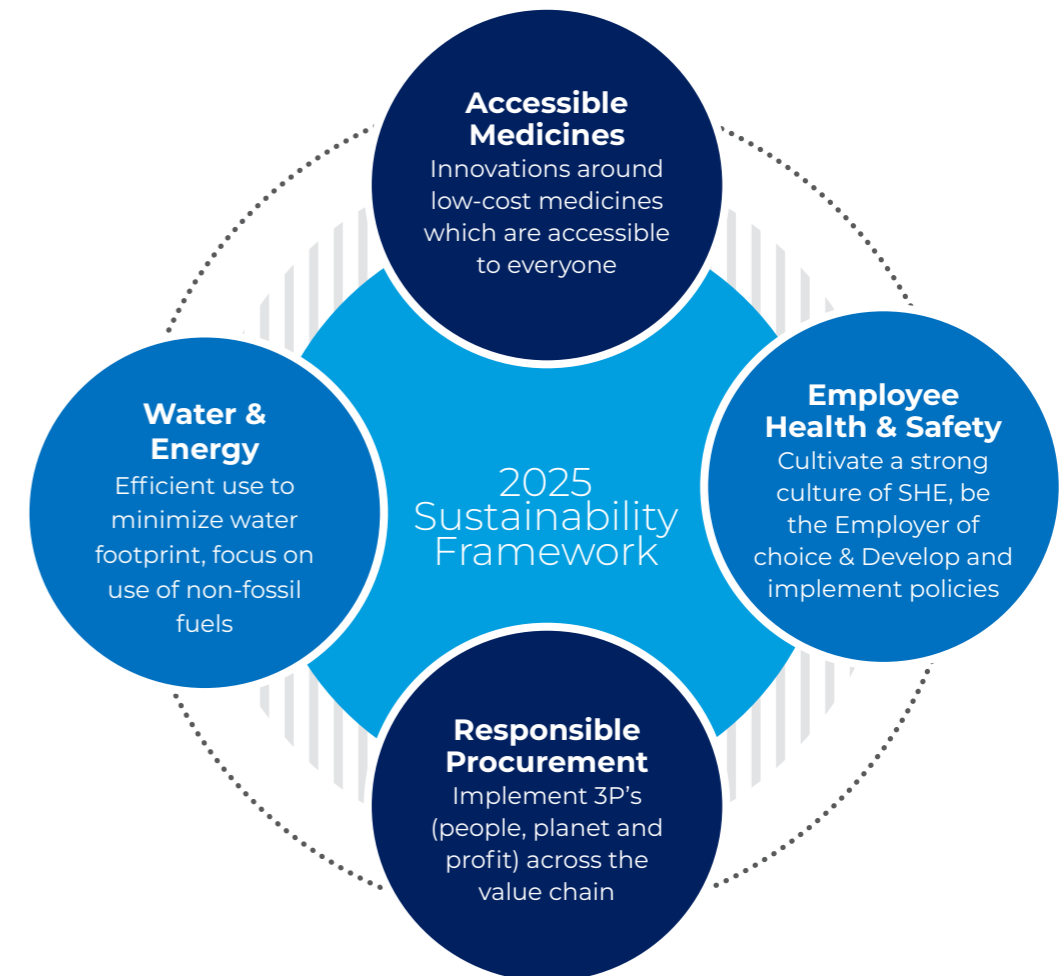
BE's goal is to become the largest vaccine manufacturer in India and one of the top companies in complex generics and specialty pharmaceuticals. We strive to maintain our position as a global leader in these areas and constantly create new growth opportunities. Our strategy is to position ourselves as an integrated global life sciences organization committed to building a sustainable society. Our focus on the speciality injectable business, pharma, and vaccine division allows us to deliver products with high efficacy. We plan to enhance our in-house capabilities and product portfolio through strategic collaborations, key acquisitions, and investments in state-of-the-art technologies. Our indigenous COVID-19 vaccine is a priority, and we are committed to making our products affordable and accessible to all.

At Biological E, sustainability is a key component of our strategic management and corporate planning. We consider economic, environmental, and social factors in our approach, which shape the innovative strategies that drive expansion and revenue streams. Our growth strategies operate across three tiers: organizational-level mergers and acquisitions, operational enhancements at individual sites, and prioritizing safety, health, and human resource development at an individual level. In the upcoming year, we plan to establish key performance indicators to further propel our sustainable growth journey.



Our strategy is to position ourselves as an integrated global life sciences organization committed to building a sustainable society.

Our Preparedness for Enabling Growth					
Quality	Product Development	People	Operations	Marketing Excellence	Internal Customer Service
<ul style="list-style-type: none"> • Maintaining the BE culture of 'Quality First' 	<ul style="list-style-type: none"> • Strategic collaborations • Affordable product line • Product differentiators • Speed to market 	<ul style="list-style-type: none"> • Talent Management • Performance Oriented Culture 	<ul style="list-style-type: none"> • Manufacturing efficiencies • Operational excellence • Sustainability • World-class infrastructure creation • Responsible value chain 	<ul style="list-style-type: none"> • Brand Building • Retail Marketing Presence • Improved Customer Satisfaction 	<ul style="list-style-type: none"> • Improved Supplier Customer satisfaction • Digitalization of Processes • Define, Track and Improve service level agreements
Business Excellence					



07

FINANCIAL CAPITAL

Since 1953, Biological E has been a leader in the pharmaceutical industry, continuously expanding and evolving. We currently have four strategic business units operating globally, intending to expand our product portfolio and strengthen partnerships. We supply lifesaving vaccines to over 130 countries, even in remote regions, at affordable prices, and our therapeutic products are available in India and the USA. We now have 8 WHO-prequalified vaccines in our portfolio and we are actively working to expand our reach and increase revenues in various regional markets.

Despite challenges faced during 2021 due to the

COVID-19 pandemic, our skilled workforce, strong collaborations, infrastructure upgrades, and effective governance enabled us to sustain business growth. As pioneers in preventive medicine, we strive to establish ourselves as successful players in the gene therapy segment.

The Indian pharmaceutical sector has seen growth due to the COVID-19 pandemic and the 'Make in India' mission. As a company with a diverse product portfolio, we aim to meet the evolving needs of our customers. In 2021-22 and 2022-23, our vaccine business contributed 60% and 64% of our total revenue, respectively, while the

pharmaceutical product industry accounted for 40% and 36% of revenues in the same periods. Our commitment to developing affordable and accessible medicines aims to contribute to the welfare and economic growth of the nation. Through collaborations with government and non-government organizations, we aspire to innovate and develop novel drugs for the betterment of society.

As we progress, we aim to diversify our product offerings to remain relevant and responsive to the current and future needs of people, solidifying our position in the market.

The Indian pharmaceutical sector has seen growth due to the COVID-19 pandemic and the 'Make in India' mission.

Particulars	UOM	2022--23	2021-22	2020-21
Economic Value Generated	Lakh INR	3,76,990.09	2,57,464.98	1,41,807.60
Economic Value Distributed	Lakh INR	84,286.14	42,277.67	17,993.00
Operating costs	Lakh INR	665.67	774.72	1,717.00
Community investments	Lakh INR	23,609.47	20,875.50	7,523.80
Payments to Government	Lakh INR	45,404.16	44,493.61	29,383.40
Employee Wage and Benefits	Lakh INR	1,79,835.36	1,17,464.16	68,208.30
Depreciation, Amortization of exceptional items, Finance Cost & Other Expenses	Lakh INR	2,86,581.86	2,25,885.66	1,17,301.70
Economic Value Retained	Lakh INR	90,408.23	31,579.32	24,505.90



08

SUSTAINABILITY @ Biological E Limited

8.1 Materiality Assessment and Stakeholder Engagement

8.1 Materiality Assessment and Stakeholder Engagement

Stakeholder Engagement

At Biological E Limited, we understand the importance of engaging with our stakeholders to ensure our sustainability efforts are effective, especially in the context of our pharma and vaccine business. Our goal is to improve our sustainability performance and have a positive impact on society and the environment. Communication and collaboration with our stakeholders are crucial to achieving this goal.

We engage with a range of stakeholders, including employees, employee unions, customers, business partners, local communities, regulatory authorities, and the media. This engagement allows us to gain valuable insights and perspectives that shape

our sustainability strategies and initiatives. By aligning our practices with the expectations and needs of these diverse groups, we build trust and create shared value.

The opinions of our stakeholders are incredibly important to us. We rely on their feedback to gain a comprehensive understanding of the wider impact of our operations. This feedback helps us identify areas where we can improve our sustainability practices and adapt to changing societal expectations. By actively seeking and considering stakeholder feedback, we can address issues and improve our responsible and ethical practices.



At Biological E., we strive to engage with our employees and unions through surveys, prioritize customer feedback, collaborate with partners, and meet regulatory expectations. We also prioritize local communities

by providing awareness programs and employment opportunities. We keep the media updated on our interactions, investments, and strategy. Our commitment fosters a harmonious ecosystem for all involved.

Key Stakeholder Groups	Mode of Engagement	Frequency of engagement	Key expectations
Employee	Employee satisfaction surveys	Half-yearly	<ul style="list-style-type: none"> • Skill development • Healthy and safe operations • Career progression • Employee engagement
Employee union	One-to-one meeting	Need-based	<ul style="list-style-type: none"> • Periodic communication • Equal remuneration • Employee-friendly policies • Safe work environment
Customers	Customer satisfaction surveys	On-going	<ul style="list-style-type: none"> • Product pricing • Product availability • Quality • New product development • Timely delivery
Business partners	Vendor and supplier meets, surveys	On-going	<ul style="list-style-type: none"> • Knowledge and infrastructure support • Periodic communication • Collaboration opportunities • Long-term partnership
Regulatory authority	One-to-one meeting	Need-based	<ul style="list-style-type: none"> • Compliance • Community engagement
Local community	One-to-one meeting	Need-based	<ul style="list-style-type: none"> • Frequent visits • Awareness creation • Employment opportunities • Health-related programs
Media	Press releases	On-going	<ul style="list-style-type: none"> • Periodic interaction • Future investments • Business strategy

Our findings and insights were based on previous year's material topics, industry standards such as GRI, SASB and the SDGs and inputs from various rating agencies, including MSCI, DJSI.

Materiality Assessment

We conducted a materiality assessment to identify the potential positive and negative impacts of Environmental, Social, and Governance (ESG) issues that matter most to the company and its stakeholders. This assessment has helped us determine where we have the greatest capacity for impact and action. Our assessment process begins with a thorough analysis of the overall impact of our organizational activities, in addition to their effects on our relationships with various stakeholders. This

comprehensive evaluation provides us with a deep understanding of our business activities and the connections we have with different stakeholder groups. Our findings and insights were based on peer landscape, industry standards like GRI, SDG, and SASB, and inputs from various rating agencies, including MSCI, and DJSI. We also took into consideration the opinions and feedback received from our internal and external stakeholders.

Actual and potential impacts	Identified issues
<p>Positive impacts</p> <ul style="list-style-type: none"> • Access to Medicine • Economic Growth • Employment Opportunities • Health Advancements • Innovation and Research • Environmental Sustainability <p>Negative impacts</p> <ul style="list-style-type: none"> • Energy and emissions • Water management • Waste management • Ethical concerns • Health Risks and Side Effects 	<ul style="list-style-type: none"> • Water • Product responsibility • Transparent reporting and communication • Community responsibility • Access to medicine and affordability • Customer health & safety • Ethics & compliance • Customer Satisfaction • Energy and Emissions • Effluents and Waste • Material Consumption • Workforce development and management • Sustainable supply chain • Retention & attraction • Diverse & Inclusive workforce • Health and Safety • Health system Strengthening • Responsible research and development • Human Rights • Intellectual Property Rights • Cyber security • Promoting Innovation

Materiality Impacts

Positive impacts:

- **Access to medicine:** Biological E ensures widespread access to essential pharmaceutical and vaccination products through strategic partnerships and collaborations, making these treatments more readily accessible to those in need. The company's robust R&D programs and collaborative efforts contribute to ensuring affordable access to medicines for all.
- **Economic growth:** Biological E actively contributes to economic growth by generating revenue, paying taxes, and investing in essential health sector infrastructure. The company's commitment to developing affordable medicines plays a meaningful role in contributing to the nation's welfare and economic prosperity.
- **Employment opportunities:** Committed to providing equal employment opportunities and adhering to all applicable regulations and standards, Biological E fosters its social performance. The company's demand for a skilled workforce in research, development, manufacturing, and distribution not only meets organizational needs but also creates job opportunities, contributing to local and national employment rates and fostering overall economic growth.
- **Health advancements:** In response to the rapid advancements in technology, Biological E consistently invests in R&D infrastructure.

This investment results in the development of life-saving drugs, vaccines, and therapies that alleviate suffering, treat diseases, and enhance overall health outcomes for individuals globally.

- **Innovation and research:** Biological E's commitment to hiring the best talent and facilitating continuous growth through relevant training contributes to innovation and development. Heavy investments in research and development lead to groundbreaking discoveries, technological advancements, and new treatment options, benefiting healthcare on a global scale.
- **Environmental sustainability:** The company prioritizes sustainable practices, including efficient use to minimize fossil fuel consumption and water footprint. Additionally, it emphasizes effective waste management systems encompassing proper segregation, handling, and disposal procedures for both hazardous and non-hazardous waste. Initiatives to enhance green cover in areas where the company operates further demonstrate its commitment to environmental sustainability.

Negative impacts:

- **Energy and emissions:** Biological E acknowledges that its manufacturing processes and operations heavily rely on electricity, diesel, and coal, generating emissions that contribute to global warming.

The manufacturing of pharmaceuticals and vaccines entails processes that have the potential to release greenhouse gases and other air pollutants.

- **Water management:** Biological E recognizes that its manufacturing operations requires substantial water usage, and the company has observed a heightened demand for water in recent years. The company is aware that if not managed properly, this large-scale water consumption can strain local water resources, particularly in regions facing water scarcity. This situation may intensify competition for water with local communities and ecosystems. The inadequate treatment of wastewater poses risks to aquatic ecosystems and may impact downstream communities relying on the same water sources..

The company prioritizes sustainable practices, including efficient use to minimize fossil fuel consumption and water footprint

- Waste management:** Biological E acknowledges that inefficient manufacturing processes and excessive use of packaging materials contribute to the generation of significant waste. The company is aware that over-reliance on non-biodegradable materials for packaging can lead to environmental pollution and increased landfill waste..
- Ethical concerns:** Biological E recognises the potential of ethical issues arising, such as controversies around clinical trials, transparency in research findings, and conflicts of interest in collaborations. The company acknowledges that ethical dilemmas and public distrust can emerge due to issues related to patient privacy, data handling, and the ethical implications of certain research practices.
- Health risks and side effects** Biological E recognizes that

despite rigorous testing, some pharmaceuticals and vaccines may have unforeseen side effects or long-term health risks, affecting individuals' well-being and necessitating ongoing monitoring. The company is aware that rare adverse events, especially those with a delayed onset, may be challenging to detect during clinical trials. As a result, these events may only become apparent when a larger population is exposed to the product.

The potential economic, environmental, and social impacts were evaluated, and the identified impacts are prioritized based on the size of the impact, the likelihood of occurrence, and the severity of the consequences.

The identification of material topics is undertaken through a consultative approach that involves engaging with both internal and external stakeholders,

such as employees, employee unions, customers, business partners, and local communities. This inclusive process ensures that input is gathered from a diverse range of perspectives, enhancing the accuracy, relevance, and transparency of the materiality assessment.

Following our analysis, we have formulated a sustainability materiality matrix that classifies different issues according to their significance for both Biological E and our stakeholders. This matrix forms the foundation for establishing our priorities and guiding our actions. It assists us in identifying material topics that necessitate our focus and attention. We regularly evaluate and revise the materiality matrix through ongoing engagements with stakeholders conducted throughout the year.

Industry Standards and Rating Agencies

To evaluate how well we're performing in terms of sustainability, we've compared ourselves to the best practices in the industry. This involved looking at the criteria and guidelines from various recognized sustainability standards and rating agencies,

GRI, SASB, SDGs and MSCI, DJSI respectively. We've thoroughly studied their frameworks and indicators so that we can ensure our sustainability initiatives and disclosures are in line with global sustainability standards.

Opinions from Internal Stakeholders

At our company, we value the input and perspectives of our internal stakeholders when it comes to shaping our sustainability strategy and reporting. We actively gather feedback and opinions from our

Safety Health and Environment functions by engaging in one-on-one discussions to better understand their expectations and concerns regarding our sustainability performance.

Review of Previous Year Material Topics

To maintain consistency and monitor advancement, we have reviewed the material topics outlined in the last sustainability report. We carefully assessed the ongoing relevance and importance of these topics. After analyzing our performance, gathering feedback from stakeholders, and observing industry trends, we have revised

and refreshed our material topics for the current reporting period.

The previous year's material topics were:

- Ethics and compliance
- Water
- Product responsibility
- Transparent reporting and communication

- Customer satisfaction
 - Access to medicine and affordability
- There have been no changes in the list of material topics, however, two topics; community responsibility and customer health and safety; have been added to the list this year.

List of material topics

Material Topics for FY-2021-23:

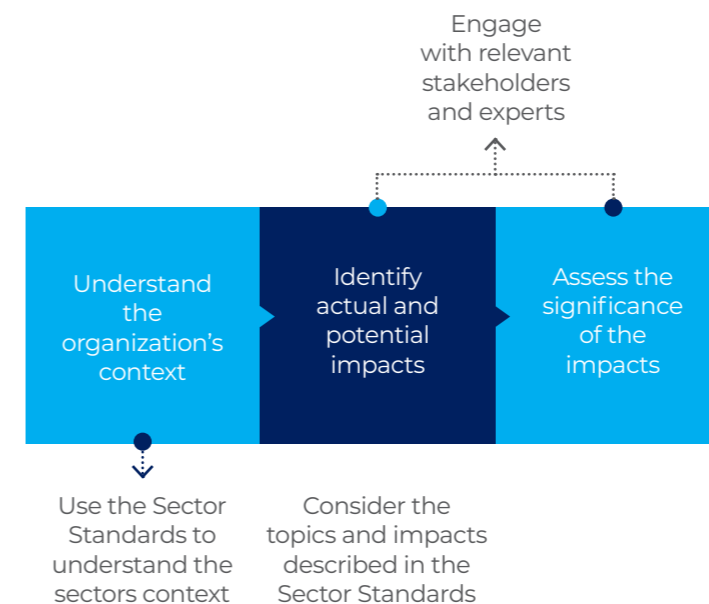
- Anti corruption 2016 (Ethics and compliance, Transparent Reporting and communication)
- Water and effluents 2018 (Water)
- Local communities 2016 (Community Responsibility)
- Customer health and safety 2016 (Customer satisfaction)
- Marketing and labelling 2016 (Product responsibility, Access to medicine and affordability)

We identify important topics through a materiality assessment and create programs to address them. We recently conducted a materiality assessment, which involved gathering input from internal stakeholders and examining emerging sustainability issues. The issues that emerged are those that could have a significant impact on our business's long-term viability. The only major change from our previous report was

the addition of Diversity & Inclusion, Human Rights, and Health System Strengthening as important topics, with some minor changes in terminology for existing topics.

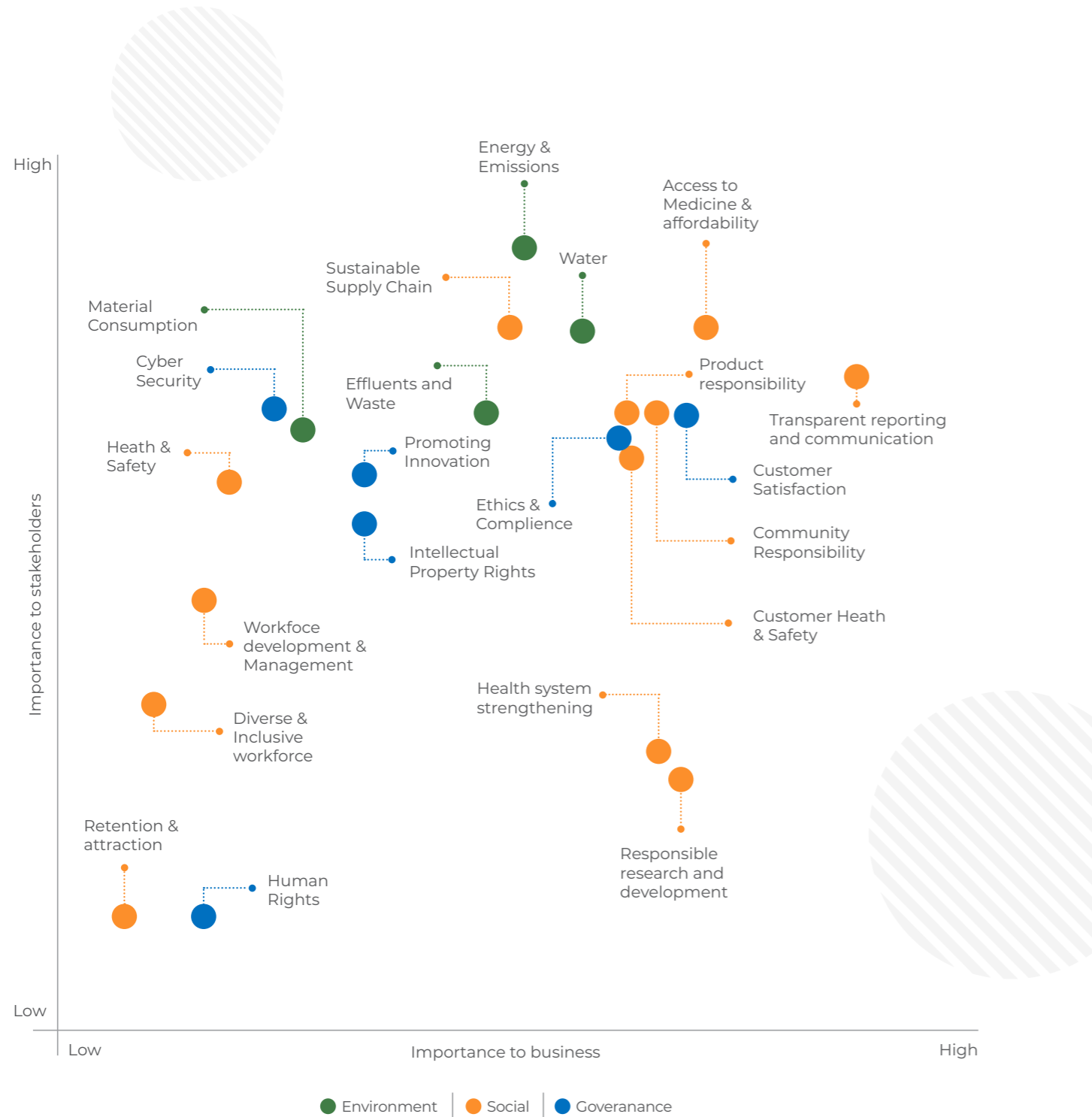


Identify and assess impacts on an ongoing basis



Determine material topics for reporting





The material issues identified are an essential tool for identifying opportunities for sustainable growth and responsible business practices. This helps us in aligning our activities with the values and expectations of our stakeholders while minimizing risks and enhancing our long-term resilience. The following material issues represent opportunities for us:

- Ethics and compliance
- Product responsibility
- Transparent reporting
- Workforce development and management
- Community responsibility
- Responsible supply chain
- Strengthening health care system
- Access to medicine and affordability
- Customer satisfaction
- Sustainable supply chain
- Promoting innovation
- Customer health & safety
- Cyber security
- Diversity & inclusion

Whereas below listed material issues can help us mitigate risks associated with regulatory compliance, reputational damage, legal liabilities, and operational disruptions:

Key Material Issue	Risk mitigating approach
Water	BE employs various strategies to minimize the risks associated with water as a critical material. These include implementing strict quality control measures and regularly monitoring and testing water sources, storage facilities, and distribution systems. Moreover, we practice water recycling at all locations and utilize zero-liquid discharge (ZLD) systems as necessary. These proactive measures ensure responsible water management, minimize the impact of water-related risks on our operations, and promote sustainability throughout our organization.
Energy and emissions	To reduce our carbon emissions and promote biodiversity, we are in process of installing renewable energy sources, such as rooftop solar, for our business operations. We have also increased the green cover in areas where our company operates.
Health and Safety	Our company places a high priority on the safety and health of our employees and workers. We provide thorough training to address any potential hazards and conduct safety campaigns and meetings to ensure that everyone is informed and aware of any risks. We encourage the use of confined spaces management, SAILOR, and "Will Stop Work" protocols, which allow anyone to halt operations if they feel unsafe. Additionally, our insurance program covers both employees and service technicians.
Effluents and waste	We prioritize efficient waste management systems that include proper segregation, handling, and disposal procedures for hazardous and non-hazardous waste. We conduct regular monitoring and audits to improve practices. Investing in advanced treatment technologies helps us treat effluents responsibly and minimize potential harm to the environment. Our goal is to promote environmental sustainability and responsible waste management.
Intellectual property rights	At BE, we prioritize the documentation and confidentiality of our research, development, and manufacturing processes. To achieve this, we have implemented strict internal protocols to safeguard sensitive information and limit access to authorized personnel only. Additionally, we actively pursue and attain patents for our innovative vaccines, pharmaceuticals, and technologies. Patents grant exclusive rights to the inventor, which allows us to protect our market position and prevent unauthorized use, sale, or distribution of our intellectual property by competitors.
Material consumption	Businesses face both opportunities and risks when it comes to material consumption. On the one hand, optimizing material usage can result in cost savings, greater efficiency, and less harm to the environment. By adopting sustainable practices like recycling and using renewable materials, companies can improve their reputation, attract environmentally aware consumers, and stay compliant with evolving regulations.
Human rights	BE prioritizes human rights and has clauses in contracts with partners to prevent forced labour. No violations occurred during the reporting period. Respecting human rights can lead to collaboration, sustainable development, and innovation while neglecting them can result in risks like reputational damage and legal liabilities.

We actively take up actions designed to address the material topics. These measures are aligned with stakeholder expectations and concerns. The company maintains ongoing communication with stakeholders during the implementation of these actions and we share the progress and challenges faced during the implementation process. Further, we have also established a continuous feedback mechanism, through regular meetings, to allow the concerned stakeholders to provide input on the effectiveness and relevance of the actions being taken, and to make any adjustments on the planned actions. Through this approach, BE learns from each reporting cycle, adjusting its strategies and actions to better align with evolving stakeholder expectations and changing business dynamics.



09

NATURAL CAPITAL

- 9.1 Water Stewardship
 - 9.1.1 Water consumption
 - 9.1.2 Responsible disposal of wastewater
- 9.2 Energy and emissions
 - 9.2.1 GHG emissions
- 9.3 Waste management @ Biological E Limited
- 9.4 Biodiversity
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9.1 Water Stewardship

Water is crucial for sustaining life and promoting good health. At Biological E Limited, we prioritize the efficient management and preservation of water to uphold our dedication to the environment. Our goal is to attain water neutrality by 2030. In the coming year we will identify key performance indicators to track progress on water efficiency.

9.1.1 Water Consumption

We have noticed a significant rise in our water usage, primarily due to its crucial role in the manufacturing of vaccines and pharmaceuticals. As water is an essential component of our processes, we have experienced an increased demand for it. The primary sources of water for our operations are municipal water supplies and groundwater. Realizing the importance of water in our manufacturing activities, we are committed to implementing water management practices that promote efficiency and conservation, ensuring the sustainable use of this precious resource.

We have compiled essential data on water consumption and withdrawal at our key locations, which provides useful insights into the sources of water, and the utilization patterns observed over the past three years. By analyzing this information, we can gain a better understanding of our water usage, identify trends and opportunities for sustainable water management practices. There has been an increase in water withdrawal across all our facilities. The main source of water consumption is municipal water,

followed by third-party water. We have included details of each facility and consolidated water consumption and withdrawal patterns at BE below. There is consistent increase in water withdrawn due to increase in production across all our facilities.

At BE, we identify the impacts related to water through regular water audits and studies on water balance. This allows us to gain insights into our water usage patterns, identify potential sources of pollution, and explore opportunities for enhancing water efficiency. Additionally, we conduct a materiality assessment every three years to better understand the concerns, expectations, and priorities of our stakeholders regarding water management.

We regularly assess water quality at the site level by measuring key parameters such as Total Dissolved Solids (TDS), pH, Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), and ammonia in the discharged wastewater and at the common effluent treatment plants (CETP). We do not follow any internal set guidelines but follow the CEPT guidelines for the discharge of

wastewater. At BE, two of our facilities have zero liquid discharge (ZLD), whereas the other facilities discharge wastewater through the CEPTs, where their impacts are measured.

In order to determine BE's water withdrawal and wastewater discharge, we utilize data gathered from diverse sources, including meter readings, municipality water consumption bills, records of water delivered by tankers, and other pertinent sources. These measurements align with regulatory mandates to ensure accuracy and compliance. The current method used to measure water withdrawal and consumption is based on the principle that water consumption is determined as the difference between water withdrawal and water discharge. Water withdrawal refers to the total amount of water extracted from municipal water supplies (Pipeline) and municipal water tankers and ground water (2 site). Water discharge specifically pertains to the water that is directed to third-party water treatment facilities, referred to as CETP (Common Effluent Treatment Plants).

The impact of global warming on our ecosystems is a continuous process that is causing long-term changes. Sadly, climate-related disasters have resulted in the loss of 1.3 million lives in the past four years alone, and 4.4 billion people have suffered injuries. Additionally, by 2030, an estimated 300 million individuals worldwide may be affected by respiratory issues caused by climate change. The effects of climate change extend beyond respiratory illnesses and include various health

outcomes such as cardiovascular diseases, waterborne diseases, and communicable diseases. To address these challenges, managing natural capital is critical.

Climate change also poses a significant business risk to our operations and physical assets. However, it also provides an opportunity for the pharmaceutical sector to contribute positively to the health and well-being of communities by

developing affordable and accessible drugs. We have implemented a monitoring process in all our vaccine and pharma facilities to evaluate our systems and processes and make adjustments if required. Our commitment to operational transformation includes incorporating energy efficiency measures, reducing reliance on natural resources, and preserving biodiversity to create a safer and healthier future for generations to come.

We are actively working to minimize emissions, consume less energy, and use water more efficiently. By streamlining our supply chain, we can address multiple environmental impacts across our value chain. Our focus on defining sustainable strategies and implementing them with measurable outcomes has been central to our approach to contributing to a healthier planet. We celebrate and promote a culture of environmental consciousness among our employees on World Environment Day (June 5th) every year. We actively encourage ideas and

practices that can be integrated into our processes to transition to a sustainable business model.

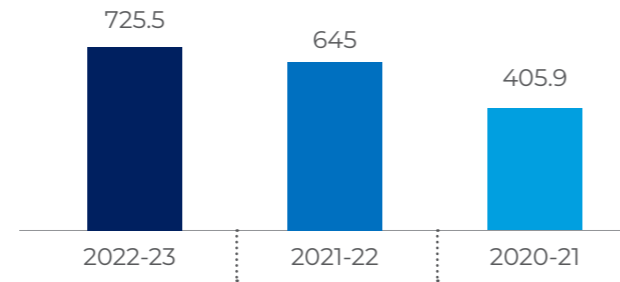
We are proud to contribute to United Nations Sustainable Development Goals (SDGs) 6, 13, and 15, which emphasize clean water and sanitation, climate action, and life on land, respectively, through the implementation of our business initiatives. Our commitment to environmental stewardship remains unwavering, and we are determined to play our part in building a sustainable future for the benefit of all.

Environment expenditure (2021-23)

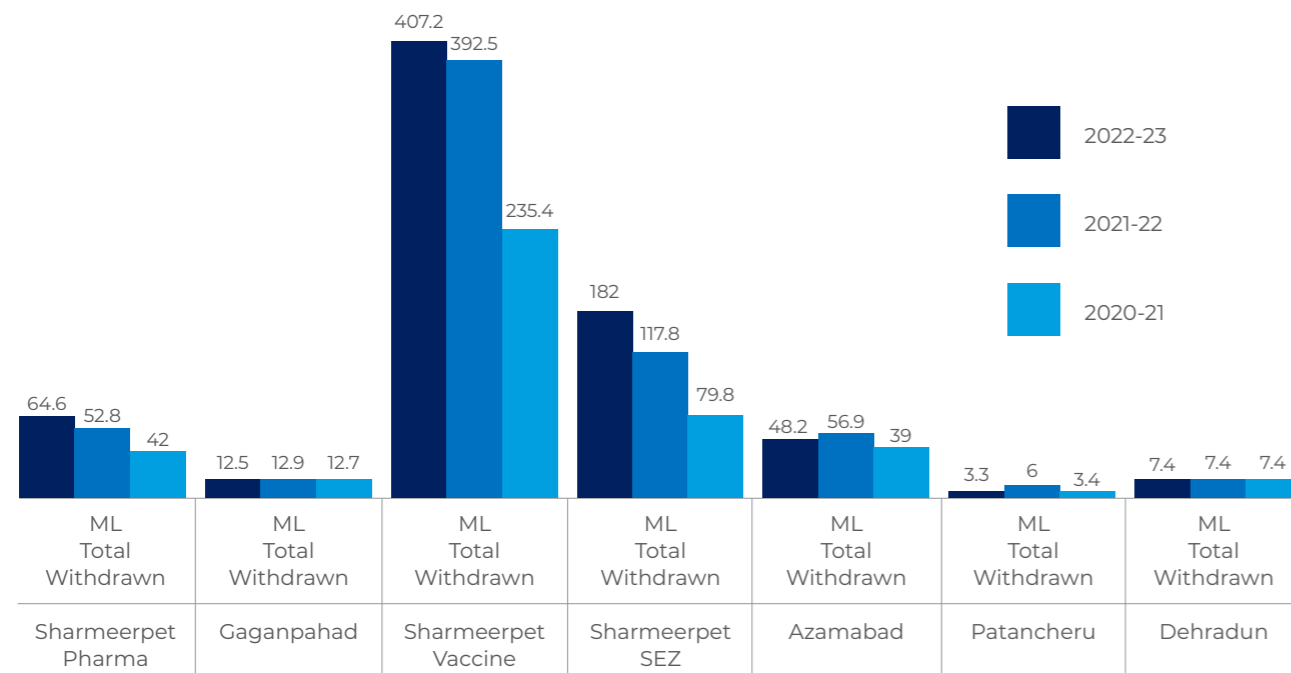
121.39 Million

Total Water Withdrawn (ML)

Total Withdrawn (ML)



The below table is indicative of our overall water withdrawal



Combined Water Withdrawal

Water Parameters	TDS Mg/L	Unit	2022-23	2021-22	2020-21
Total Water Withdrawal		ML	725.5	645	406
Municipal water	<1000	ML	397.6	373.2	275.3
Third party tanker water	<1000	ML	328	271.8	130.6

All our water is withdrawn from freshwater sources, as seen in the table above.

9.1.2 Responsible Disposal of Wastewater

We understand the importance of reducing our impact on water pollution caused by our business operations. Our commitment to environmental compliance means that we strictly follow relevant regulations to ensure that the release of pollutants into surface waters remains within acceptable limits. Equally important is our dedication to responsible waste disposal and reducing waste generation. We

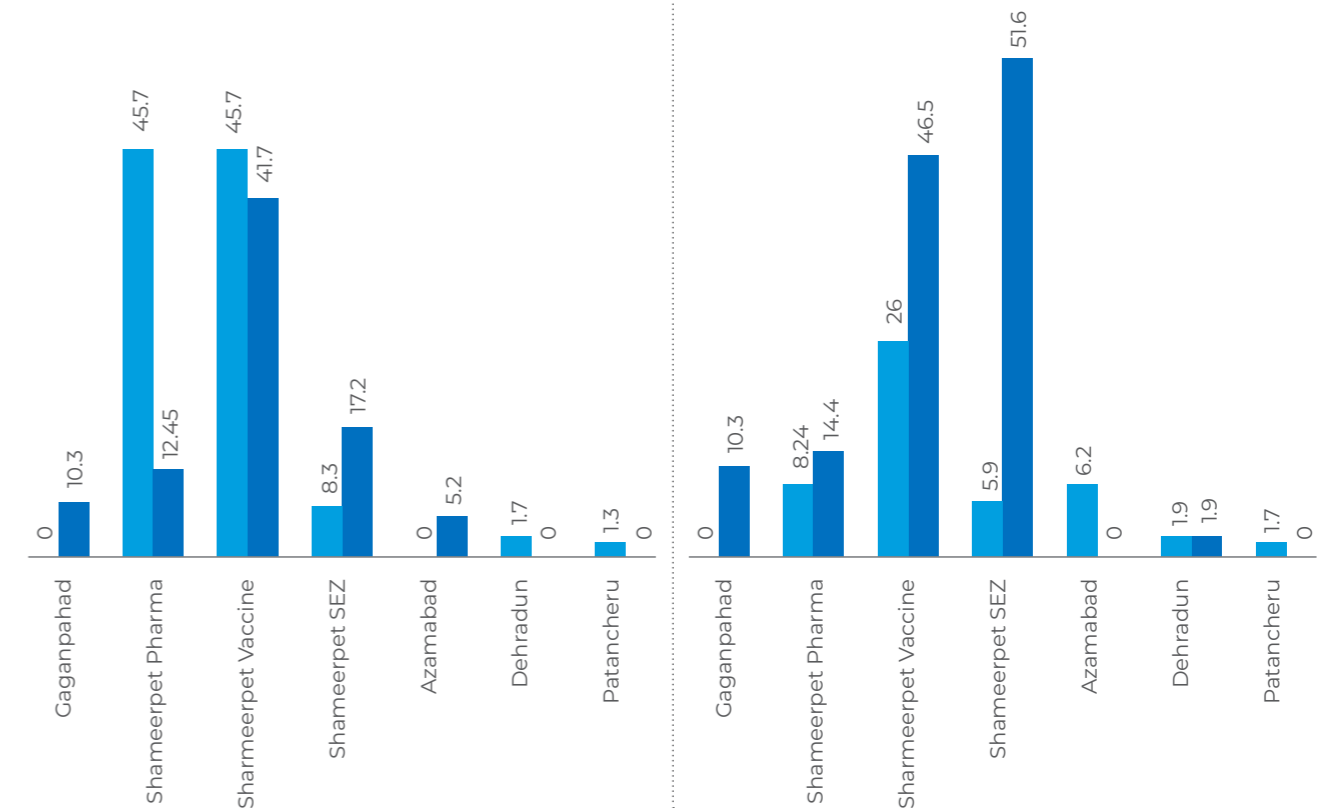
prioritize waste minimization efforts by following the principles of “reduce, reuse, and recycle” (3R).

To manage wastewater, all our operational facilities are equipped with wastewater treatment plants that handle both industrial and domestic wastewater. We focus on process optimization and continuous improvement to enhance the

recycling and reuse of treated wastewater. Our facility data shows our commitment to sustainable water practices. We have significantly increased the amount of recycled water at all locations, with Shameerpeta SEZ seeing an increase from 17.3 mega litres to 51.61 mega litres, and the Shameerpeta Vaccine unit experiencing an increase from 41.7 mega litres to 46.5 mega litres.

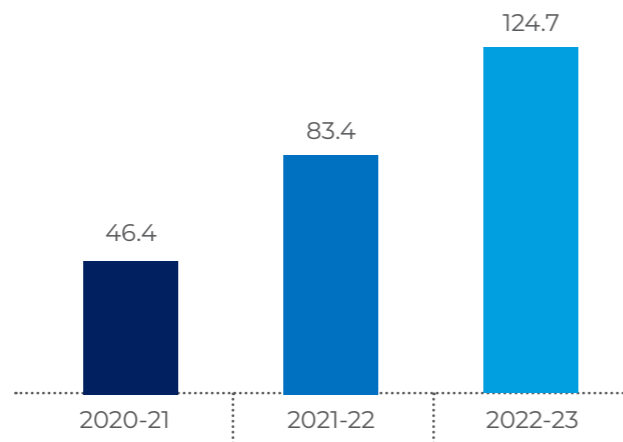
Wastewater Discharge and reuse (In ML)

2021-22

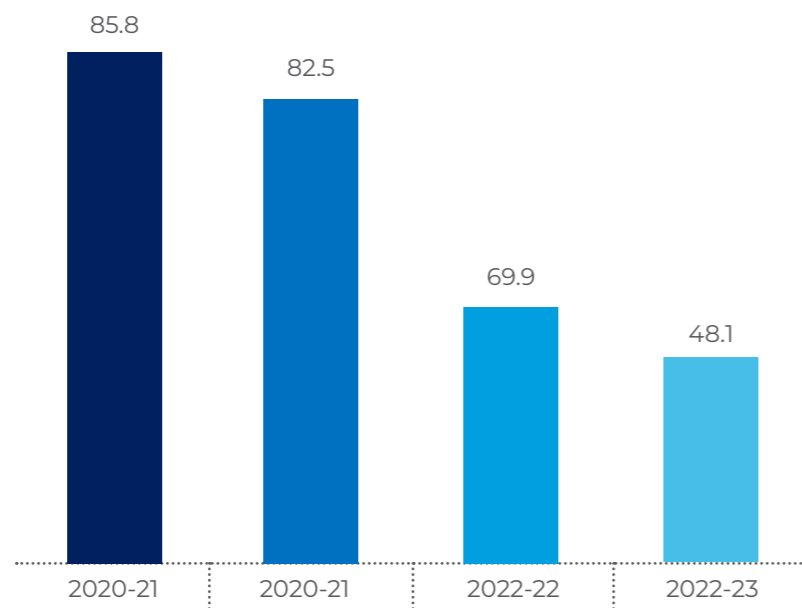


We focus on process optimization and continuous improvement to enhance the recycling and reusing of treated wastewater. Our facility data shows our commitment to sustainable water practices.

Total water recycled and reused (In ML)



Total discharge into CETP (ML)



9.2 Energy and Emissions

As a leading vaccine and pharmaceutical manufacturing company, our operations are highly dependent on electricity and diesel, coal and LPG (liquefied petroleum gas) supply. Energy consumption plays a vital role in various aspects of our processes, from research and development to production and distribution. Electricity serves as the primary source of energy, providing the essential power needed

for a wide range of activities, including equipment operation, temperature control, and lighting. In addition to electricity, we utilize other energy sources such as furnace oil, diesel, and LPG to meet specific operational requirements. These sources play a crucial role in supporting our manufacturing processes, especially in areas where biological elimination and stringent quality control measures are essential. There

is an increase in energy consumption from 2020-21 to 2022-23 of 47.86% over the base year.

The conversion of energy factors is sourced from the Bureau of Energy Efficiency and IEA while emission factors are sourced from DEFRA and IPCC.

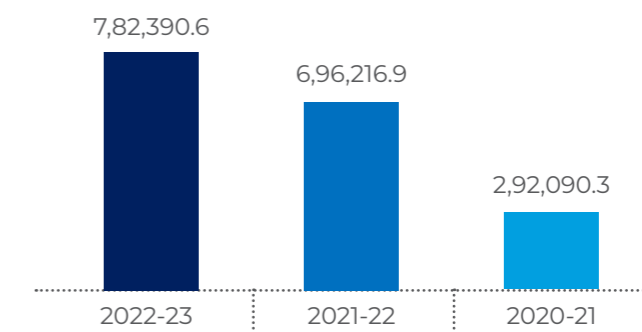
We capture the energy consumption data through meter readings tracked in log books and energy bills.

Electricity serves as the primary source of energy, providing the essential power needed for a wide range of activities, including equipment operation, temperature control, and lighting.

Fuel wise energy consumption

Fuel type	UoM	2022-23	2021-22
Total	GJ	7,69,646.5	6,50,736.6
Coal	GJ	23,067	23,361.6
HSD	GJ	34,052.1	31,324
Furnace Oil	GJ	3,94,965.6	3,39,453.9
LPG	GJ	715.4	888.4
Electricity	GJ	3,16,846.6	2,55,708.7

Total Energy Consumption in GJ



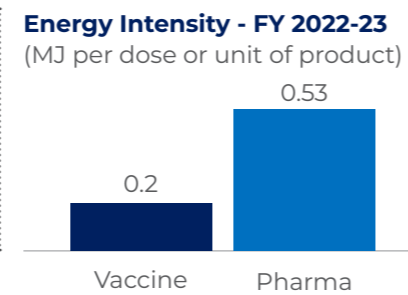
Energy intensity

As part of our commitment to sustainability, we have focused on measuring energy intensity in our operations. We have calculated energy intensity in gigajoules (GJ) for FY 2022-23 relative to production of vaccine and pharma products. By doing so, we gain valuable insights into our energy usage patterns and can identify areas where

improvements can be made. The energy consumption used to calculate this metric considers our total energy consumption from within the organization, which comprises of electricity, and energy from furnace oil, diesel, and LPG. This metric serves as an indicator of our sustainability efforts and allows us to implement targeted initiatives

to reduce energy consumption. Our dedication to calculating energy intensity underscores our commitment to achieving sustainable and environmentally responsible practices in our business.

Division	Energy intensity FY 2021-23	
Vaccine	0.2	MJ/per dose
Pharma	0.53	MJ/number of units



Energy consumption reduction

Compared to FY2022 savings

Scheme Name	Source of Energy Savings (Which section of the plant is the measure introduced)	Type of electricity energy savings	Unit
Electrical Energy	250 Watts MV bulbs replaced with 90 Watts LED bulbs 250 Watts 8 nos. removed and 90 Watts LED bulbs 8 nos arranged)	26.4	GJ
	160 Watts MV bulbs replaced with 40 Watts LED bulbs (160 Watts 28 nos. removed and 40 Watts LED bulbs 26 nos arranged)	104.6	GJ
	The Idea is to reduce the energy consumption in pre heating the furnace oil. An Oil Pre Heater (OPH) set up is installed which primarily runs with steam to heat up the oil. The oil also passes through secondary electric heater to ensure the easy shifting to electric heating system incase of any problem with steam heater. Due to this the electricity consumption is reduced by 350units/day.	25.2	GJ
	Replacement of centrifugal blower with EC blower for two AHU's	484	GJ
Total energy savings		640.3	GJ

Emission intensity

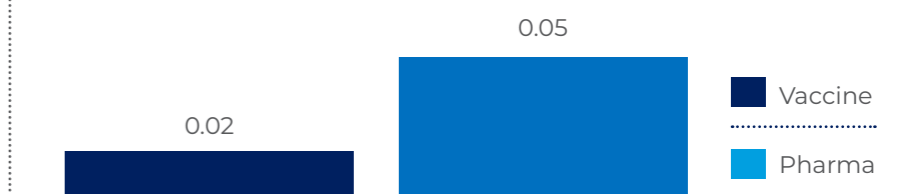
Measuring a company's environmental impact involves calculating its emission intensity, which is determined by the total Scope 1 and Scope 2 emissions generated by its production. For BE, this calculation is based on the company's production

of vaccine and pharma products. We have quantified the emissions generated for each unit of product and can assess their environmental efficiency and set meaningful emission reduction targets. This approach enables cross-industry

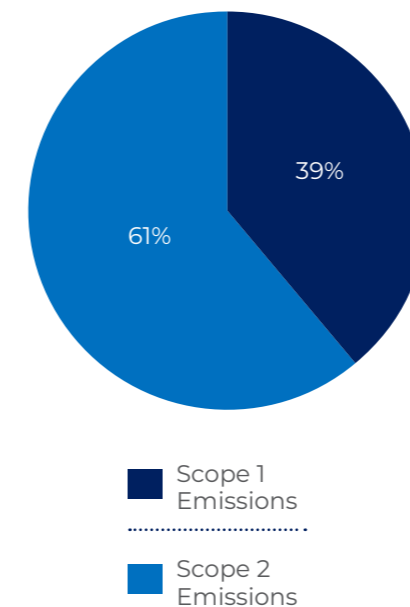
comparisons and supports the integration of sustainability considerations into core business strategies, promoting a balance between economic growth and environmental stewardship.

Division	Emission intensity FY 2021-23	Units
Vaccine	0.02	Kg CO ₂ e per dose
Pharma	0.05	Kg CO ₂ e per unit

Emission Intensity -
KgCO₂ per dose or unit of product



9.2.1 GHG Emissions



We have noticed a significant increase in Scope 1 emissions from the previous year until now, primarily due to the heightened use of LPG at our Dehradun plant. Additionally, there has been a notable rise in electricity consumption, resulting in higher Scope 2 emissions as compared to the baseline year. We acknowledge that we have rectified the values for Scope 1 and Scope 2 emissions from the previous year.

To address these challenges and stay committed to decarbonization, we are taking concrete steps towards renewable energy adoption. As a first measure, we are actively pursuing the installation of a 1 MW capacity rooftop solar plant at two facilities to harness clean and sustainable energy. This

initiative is the beginning of our efforts to transition towards greener practices, reduce our carbon footprint, and positively contribute to environmental preservation. This strategy to decrease Scope 2 emissions, we have finalized agreements to install solar rooftop plants at two of our facilities. This initiative is expected to result in a reduction 2 to 2.5 % of CO₂e emissions per year. We remain determined to pursue emission reduction strategies that align with global sustainability goals and benefit both our organization and the planet. We are also in the process of identifying key performance indicators for energy and emissions aspects to monitor progress and establish targets in our upcoming 2024 company report. We aim to take realistic initiatives to

reduce emissions while making a significant impact.

In summary, there was an increase in emissions from the base year 2020-21. However, from 2021-22, there has been a slight decline in Scope 1 emissions due to decrease in usage of fuel and decrease in production volume. Further, Scope 2 emissions there is constant increase as the consumption of electricity from GRID increased. We have initiated efforts to reduce emissions across our value chain through route optimization and increasing the bus occupancy of

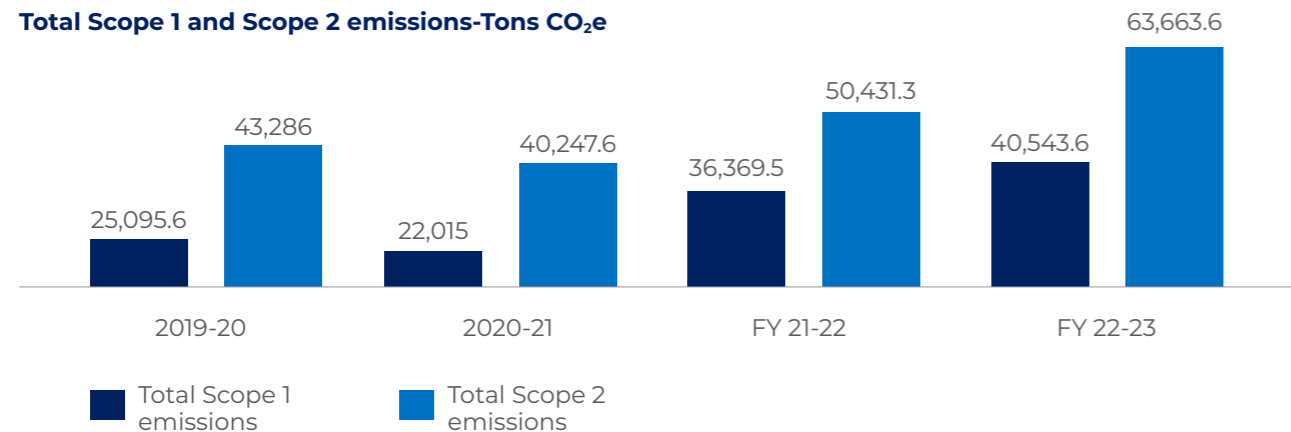
our employees. Our collaboration with indigenous suppliers is assisting us in addressing scope 3 emissions within our value chain. We are also planning to inventorize our GHG emissions of Scope 1, Scope 2 and Scope 3 for relevant categories.

We have included HSD, Furnace oil, Coal, LPG and refrigerant refilling substances to calculate scope 1 and excluded R22 and fire extinguisher refilling for GHG emission calculation in Scope 1. (Ambulance vehicle and one company owned vehicle excluded for Scope 1 calculation)

To address these challenges and stay committed to decarbonization, we are taking concrete steps towards renewable energy adoption.

GHG Emissions	2019-20 Tons CO ₂ e	2020-21 Tons CO ₂ e	FY 21-22 Tons CO ₂ e	FY 22-23 Tons CO ₂ e
Total Scope 1 emissions	25,095.6	22,015	36,369.5	40,543.6
Total Scope 2 emissions	43,286	40,247.6	50,431.4	63,663.6
Total emissions	67,696.7	62,262.7	86,800.9	1,04,207.1

Total Scope 1 and Scope 2 emissions-Tons CO₂e



Emission Reduction

In comparison to 2021-22, several emission reduction initiatives have been implemented to decrease electricity consumption. These initiatives include the substitution of LED bulbs, the reduction of energy consumption in pre-heating the furnace oil, and the replacement of centrifugal

blowers with EC blowers. Thanks to these initiatives, BE has successfully reduced emissions by 126 tons CO₂e compared to the previous year. We have included only electricity savings in the calculation of emission reduction which implies only reduction in Scope 2 emissions.

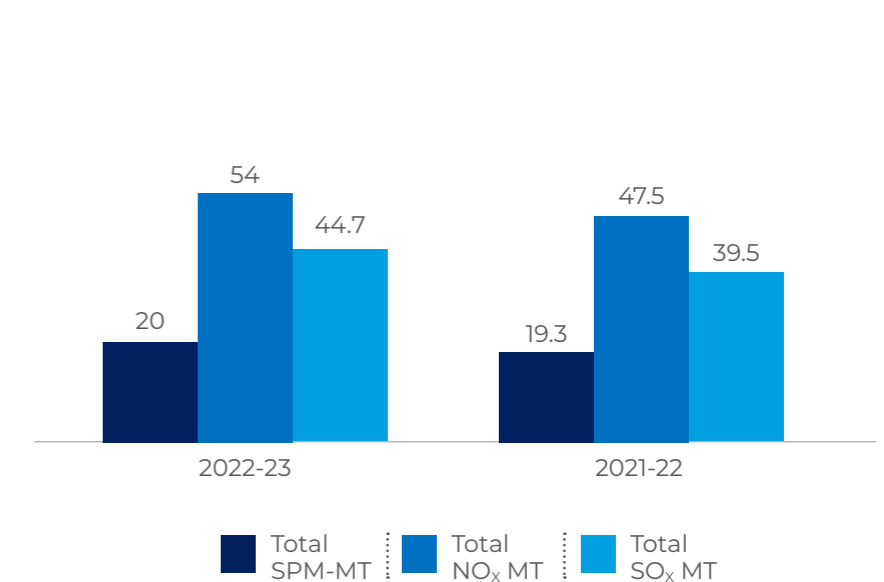
These initiatives include the substitution of LED bulbs, the reduction of energy consumption in pre-heating the furnace oil, and the replacement of centrifugal blowers with EC blowers.



SOx, NOx, SPM

We are actively monitoring stack emissions, including SOx, NOx, and SPM, at all our sites. It's noteworthy that we have observed a slight increase in emission values corresponding to the increase in production over time. Below we have given consolidated data of emissions across the facilities.

NOx SOx and SPM (In MT)



Ozone-depleting substances

We are planning to phase out the use of R22 from our Shameerpet plant by end of 2025, in line with our environmental goals. Our Environmental, Health, and Safety (EHS) team, in collaboration with the Engineering team, has carefully assessed the cost of executing this plan, which amounts to Rs 1.61 crores. Substances included in the calculation is 100% Chlorodifluoromethane.

ODS	Source	Unit	Scope 1 in Tons (FY 2022-23)	Scope 1 in Tons (FY 2021-22)
R22	IPCC AR6	Tons CO ₂	1458.2	1215.2



9.3 Waste Management @ Biological E Limited

We are dedicated to protecting the environment by reducing waste production through process optimization and advanced waste management techniques. Our main goal is to reduce the amount of waste sent to landfills. To achieve this, we have created detailed waste management plans that emphasize sustainability and resource efficiency. Our plans include composting and recycling to repurpose waste, utilizing incineration to generate energy, and ensuring proper waste disposal.

BE places a strong emphasis on waste management to promote sustainability. We proactively manage waste generation through a comprehensive approach that involves reusing and recycling

materials. Specifically, we have implemented measures to increase the internal reuse of HDPE containers, minimizing their environmental impact. We identified authorised PCB vendors to manage our waste to ensure that the third party manages the waste adequately.

Moreover, as part of our commitment to sustainable practices, we utilize recycled glass in our operations. Additionally, we have established a system to effectively handle biomedical waste, specifically plastics that are easily identified by their distinctive red color. This waste is carefully shredded and recycled to prevent any negative impact on the environment.

Expired chemicals, another form of waste, undergo a specialized

treatment process where they are transformed into useful binders and additives. By repurposing these chemicals, we not only reduce waste but also contribute to circular economy principles.

To ensure transparency and accountability in our waste management efforts, stringent data collection methods are employed. All the hazardous waste tracking is done by following guidelines on the pollution control board's website and all hazardous waste management activities are diligently recorded using manual logbooks. These logbooks are constantly supervised by site-level representatives and dedicated waste handlers, ensuring accurate information is documented and allowing for effective monitoring of our waste management practices.

Our plans include composting and recycling to repurpose waste, utilizing incineration to generate energy, and ensuring proper waste disposal.



Total Waste Generated

Hazardous waste- Waste

Waste Type	UoM	2022-23	2021-22	2020-21
Used / Spent oil	KL	3.2	0.8	0.4
Chemical sludge from waste water treatment (ETP Sludge)	MT	8.3	11.5	17.7
Used Batteries	No.s	102	0	34
E-Waste	MT	1.7	5.6	8
Biomedical Waste	MT	374.6	457.3	383.7
Glass Bottles	No.s	0	0	7,023
Biomedical Waste	MT	374.6	457.3	383.68
Glass Bottles	No.s	0	0	7,023

Non - Hazardous waste

Waste Type	UoM	2022-23	2021-22	2020-21
Packaging waste (Wood)	MT	89.9	207.8	47.1
Corrugated Box	MT	2,735.1	2,212.5	92.7
Cardboards	No.s	42	22.3	477
Paper & Stationery / Shredding Paper (Craft)	MT	20.2	141.2	111.8
Metal Scrap(MS,GI,SS & Aluminium)	MT	5888.9	5,235	18,619
Plastic Waste	MT	1404.7	533.6	45.3
HDPE Containers	No.s	12,830	3,170	15,118
Glass Bottles	No.s	10,585	11,090	-
Drums	No.s	84	58	-
Empty Corncob Bags	No.s	3,209	4,831	9,701
Waste Rubber Stoppers	No.s	51	59	0.2
PVC Drum/Can	No.s	253	416	2,788

We place significant emphasis on effectively managing various types of waste, ensuring that each unit undergoes appropriate treatment and is directed towards recycling or proper disposal (offsite).



Total Waste Directed to Disposal (In MT)

The majority of our hazardous waste is sent for disposal (Landfilling/Incineration) and is handled by authorized vendors while non-hazardous waste is sent for recycling or repurposing.

Hazardous Waste

Waste Type	Unit	2022-23	2021-22
Chemical sludge from waste water treatment (ETP Sludge)	MT	8.3	11.4
Biomedical Waste	MT	374.6	457.3

Total Waste Diverted from Disposal

Hazardous Waste

Waste Type	Unit	2022-23	2021-22
Used / Spent oil	KL	3.2	0.8
E-Waste	MT	1.7	5.6
Used Batteries	No.s	102	0

Non-Hazardous Waste

Waste Type	Unit	2022-23	2021-22
Packaging waste (Wood)	MT	89.9	2,079
Corrugated Box	MT	2,735.1	2,212.5
Cardboards	No.s	43	22
Paper & Stationery / Shredding Paper (Craft)	MT	20.2	141.2
Metal Scrap (MS,GI,SS & Aluminium)	MT	5,889	5,235
Plastic Waste	MT	1404.7	533.6
HDPE Containers	No.s	12,830	3,170
Glass Bottles	No.s	10,585	11,090
Drums	No.s	84	58
Empty Corncob Bags	No.s	3,209	4,831
Waste Rubber Stoppers	No.s	51	59
PVC Drum/Can	No.s	24	328

We repurpose the waste diverted from disposal either through in-house reuse or by employing authorized scrap dealers and recyclers for proper disposal.

In the upcoming sections, we will present case studies that highlight our efforts towards resource efficiency and environmental preservation. These examples showcase how we have implemented cost-saving initiatives and projects to

improve utility performance and maximize resource efficiency. Our proactive approach to sustainability is reflected in these success stories, and we remain committed to making a positive impact on the environment while using resources efficiently.

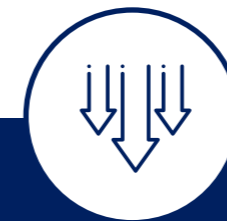
Additionally, we have established a system to effectively handle biomedical waste, specifically plastics that are easily identified by their distinctive red color.

3R Approach for Animal Research

Within our business animal studies remain integral to our official drug development processes, as required by regulations for chemical safety and biological quality control. Animal testing plays a crucial role in validating the safety of our medicinal and chemical products, as well as the efficacy of our pharmaceuticals. Additionally, our vaccine business sector utilizes animals for essential

in vivo substance generation and antibody production for diagnostics.

Biological E Limited launched a comprehensive approach dedicated to ensuring sustainability and the welfare of animals used in our research. This approach continues to guide our commitment to responsible practices, with a focus on:



Reduction

Employing the minimum number of animals necessary.



Refinement

Minimizing distress or discomfort before, during, and after testing.



Replacement

Transitioning from animal studies to non-animal systems.



In line with our above-mentioned strategy, we align seamlessly with our high ethical standards, enabling us to meet the most stringent animal welfare criteria by reducing usage of animal with non-animal alternatives and establish a unified, transparent approach across our entire organization.

To highlight some of our 3Rs implemented projects at Biological E Ltd for commercial licensed products:

<p>REMOVAL REDUCTION</p> <p>Abnormal Toxicity test remove from final bulk and lot al</p> <p>53.01 %</p>	<p>REDUCTION</p> <p>Diphtheria and Tetanus Specific Toxicity test removal from Final Bulk</p> <p>83.78 %</p>	<p>REPLACEMENT</p> <p>of In-Vivo Hepatitis B potency in final bulk with In-Vitro potency in final lot.</p> <p>92.17 %</p>
<p>REDUCTION</p> <p>Single Dilution assay Implemented for Diphtheria Potency test in final bulk.</p> <p>71%</p> <p>Guinea pigs reduction</p>	<p>REDUCTION</p> <p>Single Dilution assay implemented for Tetanus Potency in final bulk</p> <p>74%</p> <p>Mice usage reduction</p>	<p>REDUCTION</p> <p>Pyrogen test removal from JEV Final Lots</p> <p>91.38 %</p>
<p>REDUCTION</p> <p>Pyrogen test removal from Hepatitis B IP Final Lot</p> <p>100%</p>	<p>REPLACEMENT</p> <p>Implementation of Vero cell assay for Specific Toxicity and Irreversibility for Bulk purified Diphtheria toxoid.</p> <p>6 guinea pigs lives saved per test</p>	<p>REPLACEMENT</p> <p>Implementation of Vero cell assay for Detoxification test for In process Diphtheria Samples.</p> <p>Total 4 guinea pigs saved per two samples test</p>

Thanks to the concerted efforts described earlier, we have successfully reduced the utilization of guinea pigs by a substantial 71 % and decreased mouse usage by an impressive 74% and over all tests by 84 %. Building upon this achievement, we have also established a digital knowledge center dedicated to the 3Rs (Replacement, Reduction, and Refinement) as a vital component of our Knowledge Management initiative, aligning

seamlessly with one of our core values: 'Collaboration.' Our goal is to lead the way in achieving a more sustainable and humane approach to scientific research and development throughout the years and beyond.

Click on this link to know more about : Knowledge portal

https://km.biologicale.com/site_vaccine/knowledge/vaccines_knowledge_base/3rs/

Case study: Reducing anti freezing agent wastage during the fermentation process

Biological E Limited (BE) recognized the need to address Anti freezing wastage during fermentation in Block B. Direct draining of Anti freezing chilled water into the Kill Tank resulted in resource waste. To mitigate this and achieve cost savings, BE implemented a solution involving re-routing the drain point and establishing a separate Anti freezing water collection and pumping system. We achieved remarkable cost savings by adopting this approach.

Significant reduction in anti-freezing agent wastage led to approximate savings of ₹3 Lakhs per batch. This not only translated to direct financial benefits but also marked a more sustainable and resource-efficient operational practice. By successfully implementing a segregated anti freezing agent water collection and pumping system, BE demonstrated its commitment to sustainability and resource optimization. This initiative stands as a testament to

how minor process adjustments can yield substantial financial gains and foster environmentally responsible practices.

Case study: Cost reduction through efficient management of expired hazardous chemicals

At Biological E Limited (BE), our manufacturing process involved handling various chemicals to maintain safety and quality standards. Compliance required proper disposal of expired chemicals as mandated by Telangana State Pollution Control Board (TSPCB) regulations. We aimed to reduce costs incurred in hazardous waste disposal, specifically addressing the high expense of lifting expired chemicals from our premises.

We fostered a collaborative endeavor involving our Engineering, Warehouse, and Safety departments to investigate alternative TSPCB-authorized vendors. An external audit confirmed adherence to safety and environmental standards. Through our partnership with an external vendor for waste management, we achieved a reduction in waste management, minimizing downstream emissions and their impact.

Our ethos revolves around proactive engagement, guaranteeing regulatory compliance, and promoting responsible waste management practices that are sustainable. This initiative serves as a testament to our dedication to financial prudence and sustainable approaches, solidifying our image as a responsible corporate entity.



9.4 Biodiversity

We are committed to protecting the environment and preserving biodiversity in the areas where we operate. We are proud to say that we have established green belts covering over 30% of our manufacturing facilities. Our efforts to protect the ecological value of our operational areas include various initiatives, such as the herbal garden at our Shameerpur facility. This garden serves as a nesting spot for diverse bird species and provides a thriving habitat for butterflies. We also organize plantation programs regularly to expand our green belt and effectively sequester carbon emissions. Since 2016, we have collaborated with the Factories department to plant over 600 saplings across all seven facilities

as part of our contribution to the 'Haritha Haram' program initiated by the Telangana Government. We carefully select plant species to ensure ecological diversity and sustainability, including Silver Oak, Bauhinia blakeana, Anthocephalus cadamba, and Millingtonia. We have planted more than 5000 trees. In FY 2022-23 and 2021-22, we allocated 50 lakh budget for plantation in our environmental expenditures. This investment includes costs associated with treatment, disposal, equipment, maintenance, and the implementation of energy-saving initiatives, all of which demonstrate our dedication to responsible environmental stewardship



9.5 Environmental Compliance

We take pride in our legal team's diligent efforts to uphold compliance with all relevant national and local environmental regulations, ensuring minimal negative impact.

In the pharmaceutical and vaccine industry, it is crucial to prioritize environmental compliance due to frequent audits from clients and local pollution board officials. We take pride in our legal team's diligent efforts to uphold compliance with all relevant national and local environmental regulations, ensuring minimal negative impact. Our commitment to maintaining operational harmony with nature and local communities is evident through our swift resolution of any stakeholder complaints regarding environmental issues. We are pleased to report zero

incidents of environmental compliance failure and zero associated penalties throughout the reporting period. Additionally, our internal assessments have revealed no instances of non-compliance with environmental laws and regulations. These achievements demonstrate our unwavering dedication to upholding the highest standards of environmental stewardship and responsible corporate conduct. By proactively adhering to legal requirements and addressing stakeholder concerns, we strive to ensure sustainable practices that positively impact the environment and communities we serve.

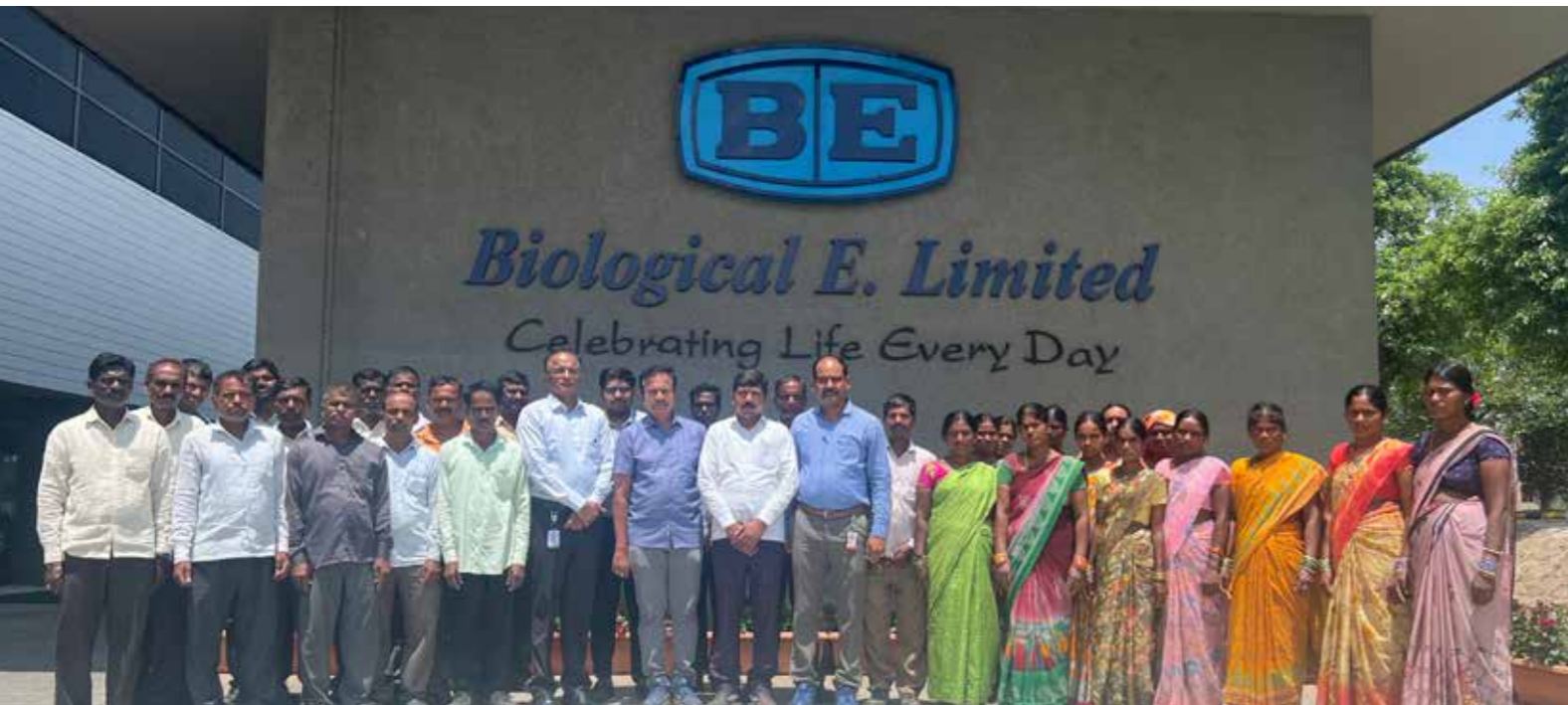


Figure 4 Received Haritha Haram Award from CII & IGBC for the support and participation of our organisation in the Haritha Haram plantation drive, organised by the government of Telangana in 2022



10

SOCIAL CAPITAL AND RELATIONSHIP CAPITAL

- 10.1 Empowering Community Advancement
- 10.2 BE Volunteering Initiatives
- 10.3 Customer Health & Safety
 - 10.3.1 Product responsibility
 - 10.3.2 Transparency in communication
 - 10.3.3 Access to medicines

- 10.4 Diversity and Inclusion
- 10.5 Sustainable Supply Chain
 - 10.5.1 Supplier selection
 - 10.5.2 Responsible sourcing
 - 10.5.3 Supplier diversity and localization
 - 10.5.4 Building a resilient supply chain

10.1 Empowering Community Advancement

Our company is dedicated to supporting community advancement through our CSR efforts, which are focused on key areas that positively impact the lives of those we serve. Our initiatives include supporting skill development and effective learning programs, ensuring access to affordable and high-

quality healthcare, and providing essential infrastructure support to local schools. We believe that quality education is essential for nurturing individuals' mental, emotional, and physical capabilities, empowering them to overcome any challenges they may face in life.

CSR Vision:

In alignment with its vision, as a socially responsible corporate citizen, will continue to enhance value creation in the society and community in which it operates. Through its conduct, services and engagement with CSR initiatives it will strive to promote, sustained growth in the regions it operates.

Objective:

To operate its business in a sustainable manner respecting the society & the environment, while recognizing the interests of all its stakeholders.

The Company believes in conducting its business responsibly, fairly and in a most transparent manner. It continually seeks ways to bring about an overall positive impact on the society and environment where it operates and as a part of its social objectives. The overview of projects proposed to be undertaken are:

To direct Company's CSR Programs, inter alia, towards achieving one or more of the following - enhancing environmental and natural capital; supporting rural development; promoting education; providing preventive healthcare, providing sanitation and drinking water; creating livelihoods for people, especially those from disadvantaged sections of society, in rural and urban India; preserving and promoting sports;

To develop the required capability and self-reliance of beneficiaries at the grass roots, especially of women, in the belief that these are prerequisites for social and economic development;

To engage in affirmative action interventions such as skill building and vocational training, to enhance employability and generate livelihoods for persons from disadvantaged sections of society;

To pursue CSR Programs primarily in areas that fall within the economic vicinity of the Company's operations to enable close supervision and ensure maximum development impact;

To provide equal opportunities to beneficiaries of the Company's CSR Programs as vendors or employees on merit;

To promote sustainability in partnership with industry associations, in order to have a multiplier impact.

Total amount spent for the reporting period FY 21-23: Rs 14,40,39,000

	FY 21-22	FY 22-23
Education	1,63,97,000	1,86,37,000
Health	6,00,75,000	4,19,30,000
Livelihood- Skill Development	-----	60,000,00
Others	10,00,000	-----
Total	7,74,72,000	6,65,67,000

According to the Annual Report, the CSR spend during the year 2022-23 was Rs. 665 Lakhs.

To achieve our goals, we collaborate with government schools and local bodies to ensure inclusive education is effectively implemented. Throughout the reporting period, we worked closely with various schools, helping establish essential infrastructure, conducting skill development activities, and raising awareness about healthcare. This

has contributed to the overall well-being and growth of the communities we serve.

In the following sections, you will find inspiring case studies showcasing the tangible outcomes of our initiatives. These case studies highlight the positive transformations and lasting impact we have made in the lives of individuals and communities. We are committed and dedicated to creating a sustainable and thriving future for all.



Transforming Lives through Holistic Learning: A Case Study in Hyderabad

In FY 2022-23, BE, alongside Datla Foundation, led a consortium with Teach For India, Roshni Trust, and Vocation, aiming to empower 1,000 students across 10 Hyderabad schools. This case study illustrates program implementation, challenges faced, and remarkable achievements. Our task was to holistically enhance learning for students through collaborative interventions.



We engaged in diverse programs:

- **Teach For India Fellowship:** 25 Fellows catalyzed transformative change in 10 schools. Enhanced educational outcomes and holistic development were nurtured.
- **Vocation's CREST Program:** Backed career enrichment for 6th to 10th graders, fostering awareness of opportunities through life and career education.
- **Roshni Trust's STAR Program:** Enabling mental health awareness and well-being interventions for children.

Collaborative efforts and strategic interventions yielded remarkable educational, career, and mental well-being outcomes, affirming the efficacy of our initiatives. Teach For India persists in its commitment to the Fellowship program, driving transformative education outcomes for all students. The case study stands as a testament to the enduring impact of collaborative initiatives, steering us toward a brighter future.



Tangible positive impacts were witnessed:

- **Teach For India Fellows:** Over 1,000 students excelled in Reading and Math, showing 57% reading growth and 74% math proficiency. Fellows demonstrated leadership skills.
- **Vocation Program:** 719 students explored diverse career pathways.
- **Roshni Trust's Mental Hygiene:** 1,260 students benefited from mental health interventions across 33 schools.

Case Study: Empowering Women through Skill Development

Through ABV Foundation, BE has steadfastly championed the economic empowerment of disadvantaged women in Secunderabad and Hyderabad slums. Our belief in women's economic empowerment as a catalyst for gender equality and inclusive growth drives our commitment to uplift marginalized communities.

We aimed to provide sustainable solutions to combat the entrenched effects of poverty, discrimination, and limited opportunities faced by women. ABV Foundation established 16 skill development centres, offering free 3-month courses in Tailoring, Embroidery, and Beautician programs. These centres aimed to enhance employability and economic independence for marginalized women, with vital support from Dr Vijay Kumar Datla Foundation.

The project's initial five months (November 2022 to March 2023) yielded the following outcomes:

- 1,532 beneficiaries were reached out of the targeted 2,000.
- Beneficiaries acquired valuable skills, translating into improved career prospects.
- Many found home-based work opportunities, bolstering financial independence.
- The Amberpet, Prem Nagar centre alone provided jobs to 80 Tailoring course graduates.
- Around 50 beneficiaries launched bangle stores or beautician parlours, elevating their economic standing.
- Increased mobility among girls from conservative backgrounds led to better opportunities. 80 Tailoring course graduates.

Our commitment to empowering women through skill development not only enhanced employability but also catalysed positive change in families and communities.

BE, via ABV Foundation, envisions expanding impact through more skill centres across Hyderabad's slums. Collaborations with like-minded organizations and businesses are sought to create sustainable revenue

streams, ensuring enduring transformation. Our dedication to empowering marginalized women has yielded promising strides. By fostering skills and opportunities, we've elevated employability and transformed lives. Through unwavering efforts and strategic partnerships, we persist in our mission to create lasting change and foster economic prosperity for these resilient women and their communities.



Case Study: Seerisha's Journey of Skill Development and Entrepreneurship

Seerisha's journey exemplifies the transformative influence of skill development and entrepreneurial spirit in the beauty and grooming sector. Her story underscores the pivotal role of ABV Foundation, in partnership with BE, in nurturing her success.

The aim was to empower individuals with the necessary skills and mindset to flourish as entrepreneurs in the beauty industry.

Her path to success involved two key phases:

Skill Development with ABV Foundation:

She harnessed the potential of the beauty industry by participating in ABV Foundation's comprehensive training and workshops. Her dedication led to a mastery of various beauty services, from skincare to hairstyling.

Entrepreneurial Pursuit:

Fueled by newfound skills, she ventured into entrepreneurship, establishing her parlour in Shamshabad. Her meticulous planning and commitment to offering exceptional customer experiences laid the foundation for her thriving business.

Her journey led to notable achievements:



Her parlour gained recognition for personalized treatments and for staying attuned to beauty trends.



Positive word-of-mouth and referrals drove her steady growth.



She expanded her services, catering to bridal makeup, special events, and beauty consultations, cementing her position in the industry.

Seerisha's path serves as inspiration, demonstrating the transformative potential of skill development. By investing in her abilities and passions, remarkable success was achieved. Her triumphant journey showcases the impact of skill development and entrepreneurial spirit. Guided by ABV Foundation and her passion, she created a flourishing business, leaving an indelible mark in the beauty industry. Her story stands as a testament to the possibilities that unfold when skills are honed and pursued with unwavering dedication.



10.2 BE Volunteering Initiatives

We remain dedicated to supporting the Government's initiatives in promoting access to healthcare, education, and improved sanitation.

At BE, we believe in actively involving our employees in volunteering initiatives that are crucial to our strategic commitments. Through such initiatives, we aim to not only offer personal development opportunities to our employees but also to create long-lasting legacies within the communities we serve. We remain dedicated

to supporting the Government's initiatives in promoting access to healthcare, education, and improved sanitation. Our collective contributions to these critical areas are aimed at making a positive and meaningful impact on society's well-being and prosperity.



10.3 Customer Health & Safety Initiatives

At our company, we prioritize the health and safety of our employees while also making a strong commitment to protecting our customers' well-being. As a healthcare and pharmaceutical-focused company, we recognize how crucial it is to maintain the safety and effectiveness of our products. That's why we

prioritize customer health and safety in all of our vaccine and pharmaceutical manufacturing processes. By following strict quality assurance measures and industry standards, we strive to provide products that have a positive impact on the health and well-being of people and communities around the world.

10.3.1 Product Responsibility

Product Responsibility

Our company has been a leader in the pharmaceutical industry for over six decades, exporting APIs, finished formulations, and biologics to countries around the world. We prioritize brand promotion every year to expand our product offerings to more nations. Our WHO-prequalified vaccine facility and cGMP compliance have enabled us to increase our global presence significantly.

We are proud to be a significant provider of vaccines for India's National Immunization Program, having supplied the Ministry of Health & Family Welfare with more than 600 million doses. We also provide vaccines to hospitals and medical facilities, ensuring that each one is transported under a verified cold chain to maintain vaccine quality.

We place a strong emphasis on safety and quality in our operations, particularly in research and development. We adhere strictly to safety guidelines and hygiene standards, recognizing their importance in the healthcare industry. Clinical trials

are conducted during the premarketing phase to ensure the safety of our products while post-marketing pharmaceutical surveillance is carried out to monitor any potential risks.

Our products are subject to life cycle testing, with a focus on end-users' health and safety. We also prioritize environmental responsibility and conduct extensive research to ensure that our products are sustainable and do not have any negative impacts. As of now, no complaints have been received pertaining to non-compliance, and there have been no adverse incidents related to product labeling, quality, or their impact on health and safety that would lead to fines, penalties, or warnings. Our R&D and Quality Control/Quality Assurance Committees evaluate our products and procedures to identify and mitigate potential risks.

As a company, we are dedicated to adhering to all applicable laws and regulations pertaining to product quality, safety, and labeling. Our product labels provide clear instructions for safe usage and are not required to disclose information about the sourcing of raw materials,

“We adhere strictly to safety guidelines and hygiene standards, recognizing their importance in the healthcare industry.”

environmental or social impact, or disposal instructions. It's important to note that we do not actively promote our products in the market. In the reporting period, there were no incidents of non-compliance with regulations resulting in a fine, penalty, warning, or non-compliance with voluntary codes. We invest in the ongoing training of our staff and work with top professionals in the field to maintain our high standards.



10.3.2 Transparency in Communication

Companies are facing increasing demands from regulators, investors, and customers to be transparent about their environmental, social, and corporate governance performance. Relying solely on financial performance is no longer enough for market leaders. At Biological E, we take pride in maintaining ethical practices and being responsible towards all our stakeholders.

As we embarked on our sustainability reporting journey and engaged with our stakeholders, we recognized the significance of transparency in all our operations and communications. Our stakeholders expect us to be forthcoming about our activities and to communicate effectively with them. Transparency is a core value for us as it helps us gain legitimacy and reputational benefits and ensures that our customers are well-informed about our products and their specifications. We firmly believe that transparency is essential for achieving environmental

and social sustainability. By being transparent, we can build trust and credibility among our stakeholders, which is vital for the success of our business and hence we opt for limited assurance of our sustainability reports.

We adhere to applicable advertising codes when promoting our products and provide critical information on our product packaging. For certain products, we include an additional leaflet with relevant information for users, to ensure clear and transparent communication. Furthermore, we make sure that all necessary information about our business offerings and products is readily available on our website, enabling our stakeholders to access the information they need easily. By embracing transparency in all aspects of our operations, we demonstrate our commitment to openness, accountability, and building strong relationships with our stakeholders.

“We adhere to applicable advertising codes when promoting our products and provide critical information on our product packaging.”



10.3.3 Access to Medicines

According to the World Health Organization, almost 2 billion people worldwide do not have access to basic medicines, which results in avoidable suffering and difficulties. One-third of the world's population cannot obtain necessary medications, and around 100 million individuals face extreme poverty due to health expenses. This highlights the urgency of addressing a wide healthcare disparity, especially in low- and medium-income countries where drug therapies are unaffordable for those in need.

Biological E is committed to providing equitable access to quality vaccines and pharmaceutical products. We have recently expanded our product offerings and geographical reach, transforming from a generic vaccine manufacturer to a novel vaccine developer. Our

goal is to contribute even more significantly to increasing access to medicines for those who need them the most, aligning with Goal 3 of the UN's Sustainable Development Goals. We have already emerged as a leading global supplier, having supplied over 2 billion doses of various vaccines to children worldwide.

To ensure widespread immunization, we prioritize lower prices while being aware of the risks of price erosion. We leverage our large capacity to deliver high volumes effectively, even in the face of continuously dropping prices. Our focus remains on leveraging technology and optimizing capacity solutions to ensure the lowest possible costs without compromising product quality.

Our diverse portfolio includes Biologics, Pharmaceuticals, and Bulk Antigens, catering to both domestic and international markets. We cover healthcare initiatives for both pediatric and adult populations, supporting the Indian government's efforts to strengthen healthcare systems, especially among low-income groups.

At Biological E, we are committed to making a positive impact on global healthcare by striving to bridge the gap in access to essential medicines and vaccines.

10.4 Diversity and Inclusion



BE recognizes the paramount importance of diversity and inclusion at Biological E Limited. We firmly believe that embracing a diverse workforce fosters innovation, creativity, and a dynamic corporate culture that drives our success. Moreover, it reflects our commitment to treating all employees with respect, fairness, and equality. We understand that diversity goes beyond race, gender, and ethnicity; it encompasses a wide range of perspectives, experiences, and talents. By cultivating an inclusive environment, we harness the unique strengths of everyone, leading to enhanced problem-solving, increased adaptability, and improved decision-making.

To actively promote diversity and inclusion, we have implemented various initiatives. Our recruitment processes emphasize equal opportunity, ensuring that all qualified

individuals, irrespective of their background, receive fair consideration. We strive to eliminate biases and unconscious prejudices from our policies and practices, ensuring an equitable and inclusive workplace for all.

Furthermore, we offer ongoing training and workshops to foster awareness and understanding of diversity-related issues, encouraging open dialogue and respectful interactions among employees. Employee resource groups provide a platform for diverse voices to be heard, creating a sense of belonging and empowerment within our workforce. Through our sustained efforts to enhance

diversity and inclusion, we are confident in our ability to attract and retain top talent, foster an engaged workforce, and drive innovation across our organization. By valuing and celebrating the unique contributions of every individual, we reinforce our commitment to sustainability, both within our company and in the communities we serve.

10.5 Sustainable Supply Chain

10.5.1 Supplier Selection

The success of our company relies heavily on the suppliers we choose. The upstream partners grant us the right access to raw materials needed for producing quality products and the downstream suppliers including various transportation partners help us reach the patients. To ensure we only work with trustworthy suppliers who can support us to produce high-quality products, we have developed a Standard Operating Procedure (SOP) that aligns with our sustainability procurement policy. This SOP involves tasks such as vendor selection and finalization. For suppliers and manufacturers, the vendor self-evaluation follows the Good Manufacturing Practices (GMP)

and quality system components of the manufacturer's checklist. Once the self-evaluation form is completed and approved by our quality department, the required raw material is specified. Our Quality Assurance function has established detailed selection and approval processes for vendors, and we only shortlist those who are approved to develop a commercial relationship. Our Quality Assurance department requires the vendor to provide three samples from their lots for inspection. Depending on the type of materials purchased, the suppliers are categorized into critical, major, and minor groups based on our Quality Assurance department's criteria.

Types of Vendors	2022-2023	2021-2022	2020-2021
Critical vendor	37	25	11
Major vendor	42	46	16
Minor vendor	6	16	5
Total	85	87	32



10.5.2 Responsible Sourcing

Building strong and lasting relationships requires trust, and that is something we prize. We work hard to create value across our entire value chain, including our suppliers who are an integral part of our company. We believe in sustainable procurement and actively seek out vendors who share our values. It is essential to connect with the best suppliers to ensure we can provide top-quality pharmaceutical goods and vaccines that enhance people's health and well-being. Even during lockdowns, we maintained close contact with our business partners to secure the necessary inputs for our processes. We are immensely grateful for the efforts of all our business partners in creating

our vaccines. Our evaluation standards ensure that suppliers comply with environmental and social legislation, including energy conservation, workplace safety, human rights, and labour laws.

The strength of our supply chain is crucial to obtaining raw materials and delivering our products to our clients. Our team members, vendors, contractors, distributors, and logistics partners all work together to produce and distribute our products. Each aspect of our supply chain adds value to our products, and we monitor every touchpoint to ensure transparency in every transaction.

We believe that collaboration is key to our success, and we apply our GET principles (Governance, Engagement, and Transparency) to our supply chain management framework. This enables us to evaluate our suppliers and ensure they comply with all legal and statutory requirements. We procure a range of materials, including chemicals, laboratory equipment, packaging materials, consumables, and office utilities. We have not identified adverse environment and social impacts in the supply chain while screening our suppliers on environment and social criteria.

Suppliers Engaged

Description	2022-2023	2021-2022	2020-2021
New Suppliers	1,020	1,026	857
Number of suppliers screened basis (Environment and Social criteria)	1,020	1,026	857
Total Procurement budget (in Crore INR)	1,573	6,032	2,399.3
Procurement budget spent on local suppliers (in Crore INR)	857.4	1,061	899.5
Percentage spending of procurement budget on local suppliers (%)	86%	86.9%	36%
Total number of local suppliers engaged	1,826	1,837	1,745

% of Key Suppliers Engaged by Geography

Description	2022-2023	2021-2022	2020-2021
India	68%	28%	90%
US	8%	49%	3%
Europe	4%	9%	4%
Asia pacific	16%	15%	-
South America	1%	0%	-

10.5.3 Supplier Diversity and Localization

At BE, we understand that having suppliers in different locations is vital to prevent any operational disruptions. That's why we invest in various geographies and produce products that benefit both India and other countries. In 2021 -22 and 2022 -23, we worked with 1026 and 1020 new suppliers respectively. Although we have significant suppliers from the USA, Germany, Japan, Switzerland, and Denmark, we acquire about 90% of our materials from local sources

in India. We believe that using local suppliers is a cost-effective solution and helps our small business partners grow. This approach creates job opportunities and has a positive impact on the communities where we operate. Our actions align with UN SDG Goal 8: Decent Work and Economic Growth, which promotes sustainable, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.



10.5.4 Building a resilient supply chain

We maintain effective oversight of our supply chain by actively engaging with our business partners, including suppliers, vendors, contractors, and logistic partners. We conduct regular risk assessments to enhance our Supply Chain Management and gain valuable insights into associated risks. This enables us to realign our operations strategically.

Ethical sourcing of materials is critical to us, considering resource scarcity. We prioritize compliance with Good Manufacturing Practices (GMP) and our Principles for Responsible Supply Chain Management. We insist that our vendors are certified and comply with all applicable national and international standards and regulations.

From the outset of our business relationships with vendors, we set clear expectations regarding environmental and social ethical practices, including fair labour practices, human rights, health, safety, and environmental protection. In the reporting period, no suppliers were identified with

any negative social impacts. We uphold our firm commitment to ethical and sound labor practices by ensuring that no individuals below the age of 18 are employed within our organization. None of our suppliers were identified at risk with respect to forced or compulsory labor, as we have a suppliers' code of conduct in place and conduct regular screenings.

Our Quality Assurance and Procurement department conducts regular assessments of new and existing vendors based on supplier categories, including site audits for critical and major vendors after one year of engagement. These assessments evaluate their deliverable quality, timely delivery, facility processes and procedures, compliance with statutory requirements, and adherence to ethical standards.

We have a zero-tolerance approach to non-compliances or quality issues in the supply chain, underscoring the importance we place on product quality. We strictly adhere to applicable regulations and

standards and expect the same from our vendors. In cases where a vendor fails to comply with applicable laws and shows no indication of improvement, their relationship with us is jeopardized. Vendor rejection may occur due to reasons such as rejection of five consecutive shipments in a year, non-suitability for requalification, and 'poor' annual ratings. However, we had no vendor rejections in the reporting year.

Through regular assessments, we identify any challenges or risks in our suppliers' processes and provide them with technical support to resolve these issues. We offer continuous mentoring to help them establish robust internal processes and mitigate identified business risks. By fostering strong relationships with our business partners and ensuring ethical practices throughout our supply chain, we uphold our commitment to product quality and the well-being of our stakeholders.





11

HUMAN CAPITAL

- 11.1 Nurturing excellence in Pharmaceuticals
- 11.2 Training and development
- 11.3 Attracting and retaining talent
 - 11.3.1 Employee benefits
- 11.4 Employee engagement
 - 11.4.1 Human rights
 - 11.4.2 Grievance redressal mechanism
 - 11.4.3 Freedom of association and collective bargaining
- 11.5 Employee health and safety

11.1 Nurturing Excellence in Pharmaceuticals

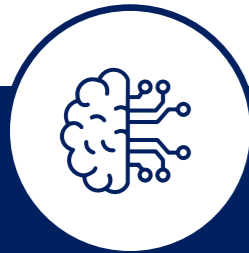
At Biological E Limited, we value our people as our greatest asset. As a leading pharmaceutical company committed to growth and innovation, we are excited to welcome new graduates who are passionate and ready to join our dynamic team. Our talent acquisition approach aims to identify the brightest individuals who are eager to contribute to the advancement of healthcare through cutting-edge research and development.

We take pride in being a platform for young talents as they begin their careers. Our recruitment process is designed to find individuals with a strong

academic foundation, a thirst for knowledge, and a drive to make a tangible impact in the pharmaceutical industry. As part of our talent acquisition strategy, we seek graduates who embody our values of innovation, collaboration, and excellence. Joining us offers the chance to be mentored by experienced professionals, work on groundbreaking projects, and help develop life-saving medicines.

At Biological E, we are investing heavily in expanding our Research and Development (R&D) capabilities. We believe that breakthroughs occur

when diverse minds come together with a shared vision. As we grow our R&D team, we actively search for individuals who are passionate about pushing the limits of science and discovering new ways to improve healthcare outcomes. Whether you specialize in drug discovery, formulation, process development, or clinical research, there is a place for you in our expanding team.



Commitment to Learning

We are dedicated to fostering a culture of continuous learning. As part of our talent pool, you will have access to ongoing training, development programs, and mentorship opportunities to support your professional growth.



Cutting-Edge Research

Join a team that is leading the forefront of pharmaceutical research. We offer an environment that inspires curiosity and innovation, allowing you to contribute to projects that have a meaningful impact on global healthcare.



Collaborative Environment

Collaboration is the cornerstone of our work. Our multidisciplinary teams work together to address complex challenges, ensuring that diverse perspectives contribute to well-rounded solutions.

11.2 Training and Development

In the past few years, the pharmaceutical industry has experienced significant growth, particularly due to the COVID-19 pandemic. At BE, we highly value a skilled workforce to help our business expand. It's crucial to recruit talented candidates who align with our company values and to retain them, which is essential for operational growth. We take pride in fostering a work culture that enables all employees to enhance their skills and knowledge by providing relevant training and development opportunities. This ensures optimal performance and productivity. We have a zero-tolerance policy towards any form of harassment or discrimination, and we treat all



employees with respect and dignity. Equitable compensation for all BE employees, including permanent employees and contractors, is a top priority. Our compensation structure exceeds the state government's minimum wage standards, intentionally designed to promote fairness.

Moreover, we are committed to professional development, as

demonstrated by our regular training sessions across all levels of our facilities. These programs focus on promoting good manufacturing practices to foster operational excellence. We have compiled comprehensive statistics detailing the total training hours offered and the number of participants engaged in these training sessions across our facilities.

Training hours by employee category and gender

Description (Employee Categories)	Unit	FY 2021-22	FY 2022-23
Senior Management (Band G & H) (General Manager & Above)	No of participants	2	12
	Hours	16	71
Middle Management (Band E & F) (Senior Manager to Deputy General Manager)	No of participants	74	256
	Hours	567	1,346
Junior Management (Band C & D) (Assistant Manager, Deputy Manager & Manager)	No of participants	261	955
	Hours	864	4,947
Staff (Band 1 ~ 2 and Band A and B) (All Executives, Assistants & Trainees)	No of participants	491	1,760
	Hours	1,174	5,541

Gender	Hours of training by gender	FY 2021-22	FY 2022-23
Male	No of participants	738	2,704
	Hours	2,319	10,731
Female	No of participants	90	279
	Hours	302	1,174

11.3 Attracting and Retaining Talent

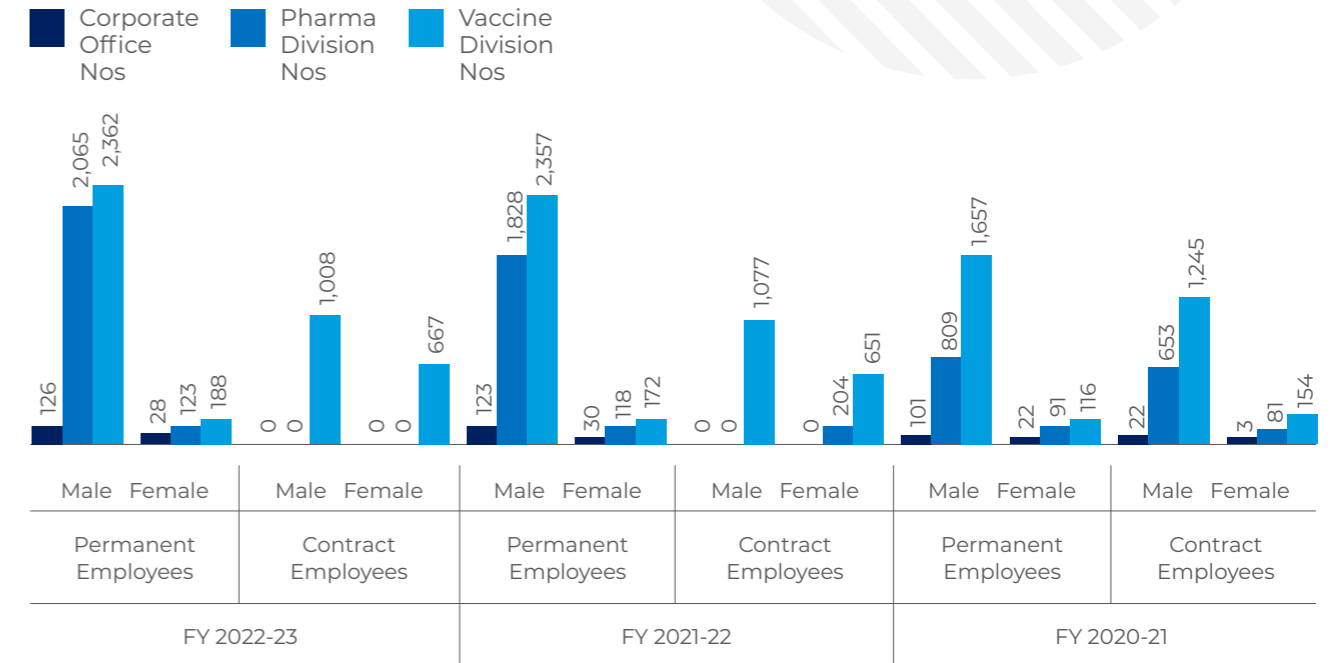
The success of our pharmaceutical enterprise in India heavily relies on securing a skilled workforce. Our Human Resources division takes a proactive approach to overseeing our personnel, introducing fresh talent annually that combines youthful vigor with seasoned expertise. We are committed to providing our staff with essential skill enhancements to advance their professional growth and align with corporate and industry demands. Our training and development strategy revolves around keeping our workforce up-to-date with progressive developments in the pharmaceutical industry, ensuring we maintain our competitive edge. Our organization rests on the contributions of adept individuals who support our

mission to enhance healthcare accessibility. At BE, our workforce is the foundation of our success. We prioritize the acquisition, retention, and cultivation of engaged employees to drive meaningful change. Our passion for creating an exceptional workplace motivates us to help team members find a profound sense of purpose and reach their full potential. BE does not employ apprentices, home workers and self-employed persons. The most common type of workers who are not direct employees are contractual workers employed through our suppliers. The work performed by them can range from housekeeping to construction activities. Considering the fluctuations in the number of contractual workers, we have

considered average across the reporting period and reported in the table below. All the workers who perform work for the organization are represented in employment figures reported at end of each reporting period. With the increase in business demand, we recognize the need to increase our workforce across all divisions. We have seen an increase in total employees from 4,954 in FY 21 to 6,567 in FY 23. During trainings for General Managers and above, dedicated sessions are included to provide training on sustainability-related topics specifically tailored for Vice Presidents and higher positions within the company. In the table below we have given details of our employees by type and gender across our divisions.

Number of employees by type, gender and divisions

Employee category	UoM	FY 2022-23				FY 2021-22				FY 2020-21			
		Permanent Employees		Contract Employees		Permanent Employees		Contract Employees		Permanent Employees		Contract Employees	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Corporate Office	Nos	126	28			123	30			101	22	22	3
Pharma Division	Nos	2,065	123	559	212	1,828	118	590	204	809	91	653	81
Vaccine Division	Nos	2,362	188	1,008	667	2,357	172	1,077	651	1,657	116	1,245	154
Total	Nos	4,553	339	1,906	879	4,308	320	1,667	855	2,567	229	1,920	238



Percentage of employees received Performance review - 2021-22

Employee Category	No. of Employees			Percentage of Employees		
	Male	Female	Total	Male	Female	Total
Staff & Workmen	1,016	12	1,028	99%	1%	100%
Executive	1,594	218	1,812	88%	12%	100%
Manager	315	24	339	93%	7%	100%
GM & Above	77	5	82	94%	6%	100%

Percentage of employees received Performance review - 2022-23

Employee Category	No. of Employees			Percentage of Employees		
	Male	Female	Total	Male	Female	Total
Staff & Workmen	1,022	19	1,041	98%	2%	100%
Executive	1,633	211	1,844	89%	11%	100%
Manager	368	37	405	91%	9%	100%
GM & Above	89	5	94	95%	5%	100%

New Joinee- 2022-23

Employee category	UoM	<30 years	30-50 years	>50 years	Male	Female	FY 22-23 Total
Permanent Employees (On Payroll - Staff)	No.s	586	693	9	1196	92	1,288
Contract Employees (Out-sourced)	No.s	478	956	159	1243	350	1593
Total New Joinees	No.s	1,064	1,649	168	2,439	442	2,881

New Joinee- 2021-22

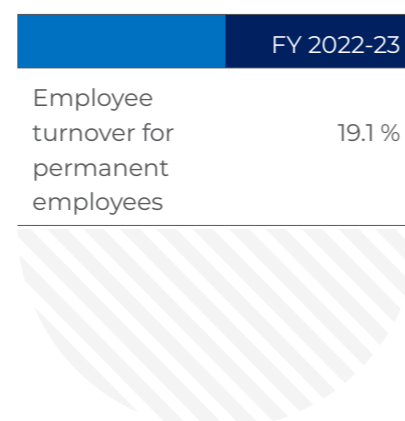
Employee category	UoM	<30 years	30-50 years	>50 years	Male	Female	FY 21-22 Total
Permanent Employees (On Payroll - Staff)	No.s	942	712	8	1,535	127	1,662
Contract Employees (Out-sourced)	No.s	671	634	97	1002	400	1,402
Total New Joinees	No.s	1,5613	1,346	105	2,537	527.00	3,064

Employee turnover

Employee turnover is slightly higher in contractual posts, as workers tend to leave for even slight improvements in remuneration they might hear about from nearby organizations.

It is worth highlighting that our commitment to supporting employees during their parental leave journeys has yielded noteworthy outcomes. Through

an all-encompassing approach to parental leave benefits, we are delighted to report a commendable achievement: a 100% parental return rate among our employees. This accomplishment stands as a testament to our dedication to employee welfare and our efforts to facilitate a smooth transition back into the workplace after parental leave.



Workforce Turnover (include cases of retirement, transfer and death)

Employee category	UoM	<30 years	30-50 years	>50 years	Male	Female	Total
Permanent Employees (On Payroll – Staff)	No.s	546	501	36	1061	22	1,083
Turnover rate-19.1 %					Total permanent employees		5644

Parameters	2022-23		2021-22	
	Female	Male	Female	Male
Number of employees that were entitled to parental leave	320	4308	283	3542
Number of employees who took parental leave	28	94	19	78
Number of employees who returned after their parental leave ended	28	94	19	78
Number of employees who took parental leave in previous year	19	78	8	64
Total number of employees retained 12 months after returning to work following a period of parental leave	19	78	8	64
Return to work rate (%)	100%		100%	

11.3.1 Employee Benefits

Employee benefits and well-being are a priority at BE. The Head of Human Resources, site level Human Resources and General Managers oversee the processes for remuneration, Various independent external consultants and remuneration consultants are involved in determining employees' compensation. External stakeholders and peers are considered to understand and analyze the market trends. We understand that improving living standards and ensuring equitable treatment of workers,

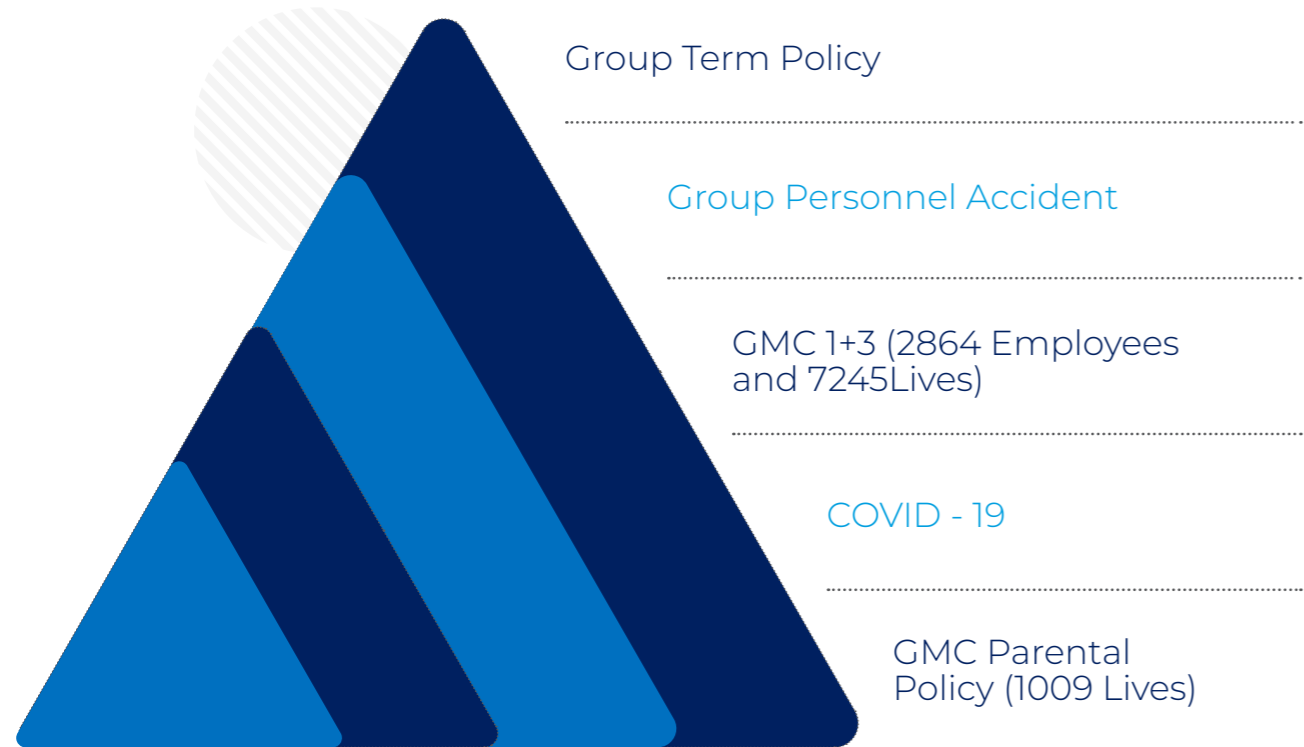
including fair compensation, is not only a moral obligation but also essential for fostering a sustainable organization. We recognize the efforts made by our employees and hope to provide them with sufficient benefits to show our appreciation. Apart from the mandatory benefits, paid leave and ESI (Employee's State Insurance), we offer commutation facilities, regular health check-ups and a full-time occupational health clinic at our premises – for both permanent and contractual employees of BE. We identify

the health risks associated with the employee function based on the defined job role and they are assessed on related health parameters. The scope of company's Term insurance policy, Medclaim policy covers the non-occupational medical injuries as well. In addition to these benefits, permanent employees are also eligible for employee provident funds, pension schemes, gratuity, medical reimbursement and leave encashment. We provide the following benefits to our employees -

Employee Benefits

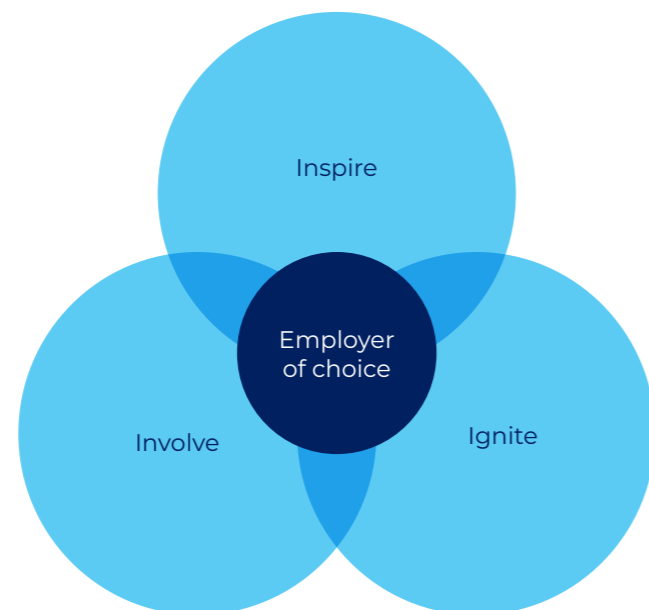
Benefits Provided	FY 2022-23			
	Sum Insured In INR Lakhs	Premium Paid In INR Lakhs	Number of employees covered	Number of Family members covered
Group Term Policy	84,313.4	156.1	4,728	NA
Group Personnel Accident	91,813.6	492.7	4,703	NA
GMC 1+3 (2864 Employees and 7245Lives)	10,783	458.6	3,521	9510
GMC Parental Policy (1009 Lives)	2,496	223.4	NA	1230

Benefits Provided	FY 2021-22			
	Sum Insured In INR Lakhs	Premium Paid In INR Lakhs	Number of employees covered	Number of Family members covered
Group Term Policy	70,247.4	277.4	4344	NA
Group Personnel Accident	45,675	6.4	3337	NA
COVID-19	2,600	28.8	5,200	NA
GMC 1+3 (2864 Employees and 7245Lives)	8,790	365.07	2864	7773
GMC Parental Policy (1009 Lives)	2,091	203.5	NA	1009



11.4 Employee Engagement

We provide equal opportunities for our skilled individuals to engage in training and development, in addition to being included in various committees. The organization is dedicated to establishing an impartial and secure working milieu, safeguarding employees against any type of harassment. We create a supportive setting that fosters the comprehensive enhancement of our employees' skills. Through constructive feedback, we ensure their continuous progression, enabling them to remain at the forefront of their professional advancement. Consequently, this enhancement significantly contributes to our overall business performance.



World Environment Day

On World Environment Day, we conducted a series of activities including crafting models from recycled materials, creating posters promoting the "Best from Waste" concept, engaging in photography sessions, participating in tree planting, distributing environmentally conscious mailers, and celebrating the event on June 3rd, 2022



Yoga Day

Yoga Activity Performed under International Day of Yoga Celebration: 21st June'22



National Safety Day

Conducted National Safety Day for one week from March 4th to March 11th



Other activities focusing on employee wellbeing



Awareness on sunstroke and dehydration



Awareness on Ergonomics



Awareness on Epilepsy



Awareness on how to manage stress

11.4.1 Human Rights



Our prioritizes ethical business practices, maintaining a strong reputation. We are committed to adhering to all applicable labour laws, including minimum wage regulations. We strongly oppose discrimination, child, compulsory, and forced labour in our entire supply chain. Our contracts with partners incorporate clauses that reinforce our commitment to fair and ethical practices regarding labour and industrial laws; also all our supply chain partners are obligated to agree to and formally sign these provisions.

We are pleased to report that we haven't found any violations concerning labour laws and human rights during the reporting period.

We attribute this success to our comprehensive training programs, through which we educate our employees about the significance of human rights and their role in upholding them. Additionally, we ensure that information regarding human rights is readily available on our intranet portal for easy access for all employees.

We acknowledge that human rights are essential pillars of sustainable development, closely linked to the United Nations Sustainable Development Goals (UNSDGs). Upholding human rights aligns with our core values and contributes to the attainment of several UNSDGs, including Goal 8: Decent Work and Economic Growth, Goal 10:

Reduced Inequalities, and Goal 16: Peace, Justice, and Strong Institutions.

By championing and honoring human rights throughout our operations and supply chain, our goal is to foster a workplace that is fair, all-encompassing, and uplifting. We hold the belief that by upholding human rights, we not only meet our ethical and legal responsibilities, but also play a role in building a society that is more sustainable and equitable. As an integral component of our employee engagement initiatives, we organize a multitude of activities aimed at bolstering employee involvement, particularly on significant environmental and other relevant occasions.

11.4.2 Grievance Redressal Mechanism

At our company, we value our employees and strive to maintain an environment that is stimulating and dynamic with open lines of communication. We prioritize resolving employee grievances and have a well-established mechanism in place to notify and handle these issues. Our employee grievance redressal procedure complies with the Industrial Dispute Act of 1947 and is explained to new hires during orientation. It is also available to all staff members on the Biological E. Employee Portal ("BEEP").

Employees have the option to file written grievances regarding issues such as unfair treatment, poor working conditions, denied leave, team dynamics, and discrimination based on gender, race, colour, region, age, marital

status, and disability. The HR department guarantees the confidentiality of complaints and the efficient operation of the appeals process. We have a dedicated three-member grievance redressal committee at the organizational level, with one representative from HRD and the other two at the level of senior manager/functional head. Within seven days of receiving the written employee grievance, the committee examines and addresses the problem based on the evidence gathered. HR maintains accurate records in both electronic and paper forms, including guidelines for grievance checklists, information on the members of grievance redressal committees, filing of grievance registers, and creation of grievance redressal reports.



Our employee grievance redressal procedure complies with the Industrial Dispute Act of 1947 and is explained to new hires during orientation.

11.4.3 Freedom of association and collective bargaining

Our Gaganpahad facility values our employees and has established a union to represent their interests. We regularly engage with the union to address various aspects of our workers' lives, including their welfare, career development, and any concerns they may have. We adhere to the Memorandum of Understanding (MoU) negotiated through collective bargaining and co-determination, which outlines the terms of service. Approximately 1% of our workers are covered by collective bargaining agreements, ensuring their fair representation and participation in decision-making processes.

We prioritize transparency and open communication with our employee union, and we provide them with ample notice of any significant changes in policies, procedures, or practices. We encourage mutual understanding and a harmonious work environment through our collaborative approach.

In terms of the same set of rules and regulations for employees, regardless of whether they are covered by collective bargaining agreements or not, Biological E Limited ensures consistency. If there are employees not covered by collective bargaining agreements, the organization

determines their working conditions and terms of employment based on either collective bargaining agreements that cover other employees within the organization or collective bargaining agreements obtained from other organizations. This approach helps maintain fairness and parity in the treatment of all employees, regardless of their union affiliation or bargaining status.

11.5 Employee Health and Safety

For the past ten years, our organization has maintained a record of zero workplace reportable injuries .

As a vaccine manufacturing company, we prioritize the health and well-being of our employees. To ensure occupational health and safety, we have implemented focused Standard Operating Procedures (SOPs). This includes conducting pre-employment medical examinations for new hires and annual health check-ups for all employees. We analyze health trends and individual employee data to identify areas of improvement. Both permanent and contractual workers undergo annual medical examinations, and based on the findings, we

create a comprehensive plan of action. This plan includes initiatives such as weekly doctor consultations, dietary changes in the canteen menu, and health talks by medical experts on topics such as nephrology, stress management, and good habits for diabetes control.

We prioritize the confidentiality of personal health records. Accordingly, our practices ensure that workers' personal health-related information and participation in occupational health services are not used for favorable or unfavorable treatment. We strictly adhere to guidelines and regulations to safeguard the privacy and security of our employees' health information. To foster a respectful and inclusive

workplace environment, our employee handbook prohibits actions that violate the dignity of others or create an intimidating, hostile, degrading, humiliating, or offensive environment for anyone. We believe in creating a supportive and healthy work environment, and we are committed to upholding the highest standards of occupational health and services.

We emphasize the well-being and safety of our employees by implementing a robust integrated system that aligns with international ISO 45001 and 14001 standards. This system, as a part of Stage 1 implementation, is currently in place across our Shameerpur Pharma, Shameerpur Vaccine,

and Shameerpur SEZ facilities, since these 3 facilities cover majority of our employee count and operational volume. The remaining facilities Gaganpahad, Azamabad and Dehradun are small in size, employee and operational volume and are to be covered in Stage 2 Implementation. Throughout the reporting period, there have

been no recorded fatalities or instances of work-related ill health among our employees and workers.

To monitor and ensure compliance and risk mitigation, authorized teams regularly conduct safety inspections at all our operational sites. Our safety performance and compliance

are closely monitored, measured, and analyzed using internally developed dashboards. Through these efforts and continuous monitoring, we aim to foster a culture of safety and responsibility within our organization, prioritizing the health, safety, and well-being of our employees.

International Safety Award Winner 2022 by British Safety Council

At Biological E Limited, we prioritize the safety and well-being of our employees through various initiatives. Our safety committees, composed of senior management and workers, conduct regular assessments and implement necessary precautions. They report to the Central Safety, Health, and Environment Committee (SHE) which evaluates incidents, fatalities, potential risks, and corresponding actions taken. We follow a well-defined SOP called BE IMSP 11, which outlines Hazard Identification and Risk Assessment (HIRA) and Environmental Impact Assessment (EIA) procedures. This systematic approach ensures the comprehensive identification of hazards and evaluation of their severity.

We have established mechanisms to oversee technological and procedural modifications, ensuring clear communication with stakeholders. All documents related to risk assessments are easily accessible to respective area owners. The SHE Committee identifies risks and updates relevant mitigation processes and procedures to improve safety statistics. We

celebrate National Safety Day annually from March 4th to 11th through various engaging activities aimed at fostering a safety culture among our employees and staff.

To prioritize employee well-being and safety, we have implemented various health services, including check-ups, blood donation camps, and collaborations with local hospitals. Facilities with ISO

45001 recorded 28 first-aid cases highlighting our commitment to addressing safety incidents promptly. We are formalizing a monitoring and reporting mechanism for all facilities beyond the scope of ISO 45001 to ensure safety is a top priority. Encouraging employees to report near-miss and incident cases is essential to our safety culture.

We have established an Emergency Management Framework called SAILOR, which ensures consistency across safety concepts and strategies adopted at various sites and functions. Through these proactive measures, we demonstrate our unwavering commitment to employee well-being and security. Safety is an integral part of our organizational culture, and we continuously strive to enhance our safety practices and protect our employees from potential risks and hazards.

We have also implemented an incident investigation procedure BE IMSP 26 addressing the responsibilities of each function and steps to be carried out in case of any incident. The investigation is undertaken after reporting of any incident

	FY 2021-22		FY 2022-23	
	Permanent Employees	Contract Employees	Permanent Employees	Contract Employees
Total Man Hours Worked	50,13,316	45,29,602	65,35,354	48,52,261

Description	Number	Percentage
The number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system	987	15%
The number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system that has been internally audited	487	8%
the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system that has been audited or certified by an external party	5093	77%



Figure 6 Biological E Limited received award in commitment in excellency on their EHS practices from CII-SR in 2021

or unsafe activities. We follow internal procedures in carrying out the investigation and conduct a Root Cause Failure Analysis (RCFA). This results in deploying appropriate CAPA holistically to prevent the incident from recurring.

We perform Hazard Identification and Risk Assessments across our vaccine and pharmaceutical

manufacturing sites. Bio-risk assessments are also conducted at our vaccine facilities in the event of a risk being identified.

We conducted a trend analysis as part of the Annual Medical Examination for both permanent and contractual workers. The insights gathered from this analysis guided the development of a strategic

plan. This plan includes initiatives such as weekly doctor consultations, adjustments to the canteen menu to incorporate healthier options, and engaging health talks by medical experts covering topics like nephrology, stress management, and fostering good habits for diabetic control.

ISO Certifications



Figure 8 ISO 14001: 2015 certificate for Shameerpet Pharma



Figure 7 ISO 45001:2018 certificate for Shameerpet Pharma



Figure 10 ISO 50001: 2018 Energy Management certification - Shameerpet Vaccine



Figure 9 ISO 14001: Environmental Management System - Shameerpet Vaccine

OHS Training

Regular Occupational Health and Safety (OHS) training sessions are conducted at Biological E Limited as part of our ongoing efforts to enhance safety and health measures

Type of employee	Description	Unit	Annual Total 2022-23	Annual Total 2021-22
Permanent employees	Number of training attended	No.s	20,204	22,873
	Training Hours	Hours	10,714	12,080
Contract employees	Number of training attended	No.s	981	424
	Training Hours	Hours	1,051	424



Fire Fighting Training Conducted at Furness Oil tanks to Boiler Employees and casuals



Usage of Fire Extinguishers, and Fire Hydrant System Demo

ECOVADIS Rating

Ecovadis is a globally recognized assessment platform that rates businesses' sustainability based on four key categories: environmental impact, labour, and human rights standards, ethics, and procurement practices.

Through our collective and collaborative efforts as a team, we have achieved a silver rating of 83 percentile in the EcoVadis score for both our Special Economic Zone (SEZ) and Malkajgiri site. This accomplishment reflects our commitment to sustainability and responsible practices.



Strengthening Confined Space Management Program to Achieve Zero Injuries and Incidents: A Case Study on Employee Health and Safety at Biological E Limited

At Biological E Limited (BE), prioritizing employee safety is paramount. To create a secure work environment, we identified the necessity for a robust Confined Space Management Program. The program's goal was to align with ISO 45001 and OSHA CS Standards and achieve zero confined space-related injuries by 2023. We aimed to enhance safety measures by implementing a comprehensive Confined Space Management Program, adhering to international safety standards.

Our multi-faceted program comprised several key components:

Thorough Training: Comprehensive training was provided to employees engaged in confined space work, reinforcing hazard understanding, safety protocols, and emergency procedures.

Entry Protocols: Strict entry procedures, including permits-to-work, were established, granting confined space access solely to authorized personnel.

Continuous Monitoring: Real-time monitoring of confined spaces assessed atmospheric conditions and potential risks, facilitating prompt alerts and hazard identification.

Emergency Response Plan: A robust plan for unforeseen situations was created, outlining evacuation and immediate assistance protocols.

The Confined Space Management Program yielded impactful outcomes:

Zero Incidents: By 2023, our efforts led to zero confined space-related injuries, reflecting our commitment to employee safety.

Enhanced Safety Culture: A strong safety culture permeated our workforce, inspiring safety-conscious behaviour in all aspects of work.

International Compliance: Aligning with ISO 45001 and OSHA CS Standards underscored our dedication to international safety benchmarks.

Our program's success showcases the profound impact of prioritizing employee safety and adhering to rigorous safety standards. Our triumph in implementing the Confined Space Management Program underscores our unwavering commitment to employee well-being. By adhering to

international standards and cultivating a safety-first mindset, we've established a foundation for ongoing safety excellence.

At BE, we take the safety of our employees seriously and our Confined Space Management Program is a testament to that. Our commitment to

international safety standards and achieving zero incidents demonstrates our dedication. Moving forward, we remain steadfast in our pursuit of maintaining a secure work environment to prioritize the health and safety of our employees.

Enhancing Safety with SAILOR Incident Logging and Reporting: A Case Study

At Biological E Limited (BE), the well-being of our employees is paramount. To cultivate a proactive safety culture and ensure a secure work environment, we introduced the SAILOR Incident Logging and Reporting system. This digital solution enabled real-time tracking, analysis, and categorization of safety incidents and observations.

We aimed to enhance safety awareness and incident management by implementing the SAILOR system, addressing challenges associated with manual incident recording and analysis.

Our SAILOR Incident Logging and Reporting system rollout encompassed the following stages:

Training and Awareness: Comprehensive training equipped all employees with the skills to use the SAILOR system effectively, emphasizing the significance of reporting near misses and observations.

Incident Categorization: The SAILOR system featured tailored incident categories, enabling precise classification and addressing our specific safety concerns.

The implementation of the SAILOR system delivered noteworthy enhancements:

Improved Incident Tracking: Digitization improved accuracy and streamlined incident reporting.

Proactive Safety Culture: Employees actively reported near misses, fostering swift hazard mitigation.

Targeted Improvements: Data analysis pinpointed improvement areas, facilitating focused safety measures.

Our journey underscored the value of digitized incident management and proactive safety reporting. The SAILOR Incident Logging and Reporting system has significantly elevated safety practices at BE. By harnessing accurate incident data, nurturing a proactive culture, and executing data-driven actions, we've forged a safer work environment.

At BE, we prioritize our employees' well-being, which is why we have adopted the SAILOR system. This system helps us categorize observations and enables us to effectively address risks. As we remain focused on safety, the SAILOR system remains an essential tool that reflects our ongoing dedication to our employees' safety and workplace wellness.



UN SDG Goals Mapping

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UN SDG GOALS MAPPING



We are striving towards reaching low income groups by manufacturing affordable vaccine and also developing skills, generating employment, providing health care training, and quality education through our CSR efforts



Our ongoing commitment to addressing the challenges posed by COVID-19, along with our continuous efforts in developing new vaccines and medicines, remains steadfast. Our primary focus is on improving the well-being and health of millions of lives worldwide



Our endeavors to enhance the quality of education through CSR initiatives and empower women through skill development and livelihood generation play a pivotal role in our pursuit of achieving Sustainable Development Goal (SDG) number 4: Quality Education



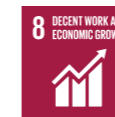
We are dedicated to the mission of ensuring access to clean water, optimizing water reduction and reuse practices across our sites, and efficiently managing waste throughout our plants. Our collective efforts are geared towards the realization of SDG 6



We are taking significant strides towards procuring renewable energy, including the installation of rooftop solar panels at two of our sites. This marks our initial foray into clean energy adoption, aligning with our broader objective of reducing our reliance on fossil fuels and contributing to the achievement of the Sustainable Development Goal for clean energy



Our commitment to innovation in healthcare has led to groundbreaking achievements, including the development of a COVID-19 vaccine and the creation of novel vaccines for combating deadly diseases. These efforts directly contribute to our pursuit of Sustainable Development Goal 9, aimed at fostering innovation for a better and healthier future



We are dedicated to creating new employment opportunities and enhancing the skills of individuals through continuous training programs. Our ongoing research and development efforts drive economic growth. Furthermore, our commitment to ensuring vaccine and medicine access for underserved populations not only improves public health but also indirectly supports economic growth and productivity



We are actively quantifying our Scope 1 and 2 emissions, and we have initiated efforts to reduce our reliance on fossil fuels by transitioning to renewable electricity sources. As part of this initiative, we are installing rooftop solar systems to harness clean and sustainable energy.



We are forging collaborations with esteemed organizations such as the World Health Organization (WHO), UNICEF, the National Safety Council, the Federation of Indian Chambers of Commerce and Industry, and the Pharmaceuticals Export Promotion Council of India (Pharmexcil). Through these strategic partnerships, we aim to obtain licensing for our vaccines and ensure their widespread distribution to reach people in need



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GRI CONTENT INDEX

Statement of use: Biological E has reported in accordance with the GRI standards for the reporting periods April 1 2021– March 31 2022 and April 1 2022 – March 31 2023

- GRI 1 used – foundation 2021
- Applicable GRI sector standard – Not applicable

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
GRI 2: General Disclosures 2021					
2-1	Organisational details	2-1 a Reported 2-1 b Reported 2-1 c Reported 2-1 d Reported	About Biological E Limited About Biological E Limited About Biological E Limited Our Global Footprint	20, 26	
2-2	Entities included in the organization's sustainability reporting	2-2 a Reported 2-2 b Reported 2-2 c Omitted	About this report	14	2-2 c Not applicable: BE does not have any ownership interest in any entity that is not organization owned or controlled
2-3	Reporting period, frequency and contact point	2-3 a Reported 2-3 b Reported 2-3 c Reported 2-4 d Reported	About this report	14	
2-4	Restatements of information	2-4 (i) Reported 2-4 (ii) Reported	Restatement	14	
2-5	External Assurance	2-5 a Reported 2-5 b Reported	Assurance Assurance	14	
2-6	Activities, value chain and other business relationships	2-6 a Reported 2-6 b Reported 2-6 c Reported 2-6 d Omitted	Our Global Footprint Market Presence, Key Partnerships Responsible Sourcing	26, 28, 117	2-6 d: Not applicable: There has been no significant change in 2-6 a, 2-6 b, 2-6 c

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
2-7	Employees	2-7 a Reported 2-7 b Reported 2-7 c Reported 2-7 d Omitted 2-7 e Reported	Human Capital	120	2-7 d: Not applicable: All the employees working for BE are accounted in 2-7 a & 2-7 b
2-8	Workers who are not employees	2-8 a Reported 2-8 b Reported 2-8 c Reported	Human Capital	120	
2-9	Governance structure and composition	2-9 a Reported 2-9 b Reported 2-9 c Partially Reported	Our Governance Model	35, 36	2-9 c (vi) Information unavailable: Composition of the highest governance body and its committees have not been evaluated for under-represented social groups 2-9 c (viii) Information unavailable: Composition of the highest governance body and its committees have not been evaluated for stakeholder representation
2-10	Nomination and selection of the highest governance body	2-10 a Omitted 2-10 b Omitted			2-10 Confidentiality constraints: Nomination and selection process for highest governing body and its committees is based on internal criteria of the company
2-11	Chair of the highest governance body	2-11 a Reported 2-11 b Reported	Our Governance Model	35	
2-12	Role of the highest governance body in overseeing the management of impacts	2-12 a Reported 2-12 b Reported 2-12 c Reported	Corporate Governance Sustainability Governance	35,41	
2-13	Delegation of responsibility for managing impacts	2-13 a Reported 2-13 b Reported	Corporate Governance Sustainability Governance	35,41	

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
2-14	Role of the highest governance body in sustainability reporting	2-14 a Reported 2-14 b Reported	Sustainability Governance	41	Chief operating officer who is the highest governance body of the sustainability and SHE committee reviews the material topics
2-15	Conflicts of interest	2-15 a Reported 2-15 b Omitted	Sustainability Governance	41	2-15 b: Not applicable: No conflicts of interest have been reported for Biological E Limited. Therefore, the disclosure to stakeholders regarding conflicts of interest is not applicable.
2-16	Communication of critical concerns	2-16 a Reported 2-16 b Omitted	Business Ethics	43	2-16 b Not applicable: No critical concerns were identified during reporting period
2-17	Collective knowledge of the highest governance body	2-17 a Reported	Attracting And Retaining Talent	124	
2-18	Evaluation of the performance of the highest governance body	2-18 Omitted			2-18: Confidentiality constraint: The evaluation of the highest governance body is done by the managing director and the human resources head. The evaluation processes is based on internal criteria of the company
2-19	Remuneration policies	2-19 a Omitted 2-19 b Omitted			2-19: Confidentiality constraint: The remuneration the highest governing body is evaluated same as that of all the employees and is evaluated based on their performance. The remuneration policies for senior executives is for internal use only.

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
2-20	Process to determine remuneration	2-20 a Reported 2-20 b Reported	Employee benefits	127	
2-21	Annual total compensation ratio	2-21 a Omitted 2-21 b Omitted 2-21 c Omitted			2-21 : Confidentiality constraints: Biological E is a privately held business and disclosures of the remuneration details of the senior executives is confidential and is not reported outside.
2-22	Statement on sustainable development strategy	2-22 a Reported	Foreword from MD's desk Goals and target 2025 Framework	6, 66, 68	
2-23	Policy commitments	2-23 a Reported 2-23 b Omitted 2-23 c Omitted 2-23 d Reported 2-23 e Reported 2-23 f Reported	Business Ethics Human rights	43, 130	2-23 b – Not applicable: No vulnerable groups are at risks within our operations or in our supply chain 2-23 c - Confidentiality constraint: The policies are not available externally. 2-23 d - The business ethics document which is shared to all the employees is reviewed and approved by the managing director 2-23 e - The business ethics document is applicable to employees, contractors, suppliers and everyone in the value chain
2-24	Embedding policy commitments	2-24 Reported	Corporate Governance Sustainability Governance	35, 41	

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
2-25	Processes to remediate negative impacts	2-25 a Reported 2-25 b Reported 2-25 c Omitted 2-25 d Reported 2-25 e Reported	Materiality impact Business Ethics	77, 43	2-25 c: Not applicable
2-26	Mechanisms for seeking advice and raising concerns	2-26 Reported	Grievance Redressal Mechanism	131	
2-27	Compliance with laws and regulations	2-27 Reported	Business Ethics	43	
2-28	Membership associations	2-28 a Reported	Membership and association	32	
2-29	Approach to stakeholder engagement	2-29 a (i) Reported 2-29 a (ii) Reported 2-29 a (iii) Reported	Sustainability @ Biological Limited	72	
2-30	Collective bargaining agreements	2-30 a Reported 2-30 b Reported	Freedom of association and collective bargaining	131	
GRI 3: Material topics 2021					
3-1	Process to determine material topics	3-1 a Reported 3-1 b Reported	Sustainability @ Biological E Limited	72	
3-2	List of material topics	3-2 Reported	Sustainability @ Biological E Limited	72	
Ethics and Compliance					
GRI 3-3	Management of material topics	3-3	Business ethics	43	
GRI 205: Anti-corruption 2016					
205-1	Operations assessed for risks related to corruption	205-1 Reported	Business ethics	43	

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
205-2	Communication and training about anti-corruption policies and procedures	Reported	Business ethics	43	
205-3	Confirmed incidents of corruption and actions taken	Omitted			205-3 Not applicable: No cases reported
Water					
GRI 3-3	Management of material topics	3-3	Water Stewardship	85	
GRI 303: Water and Effluents 2018					
303-1	Interactions with water as a shared resource	303-1 a Reported 303-1 b Reported 303-1 c Reported 303-1 d Reported	Water Stewardship Risk Mitigation Approach	85	
303-2	Management of water discharge- related impacts	303-2 a Reported	Water stewardship	85	
303-3	Water Withdrawal	303-3 a Reported 303-3 b Omitted 303-3 c Reported 303-3 d Reported	Water Consumption	85	b) Not applicable, since as per Central Ground Water Authority (CGWA) our businesses do not fall under water stress areas c) All the water withdrawn by the company is sourced from freshwater
303-4	Water discharge	303-4 a-Reported 303-4 b Reported 303-4 c Omitted 303-4 d Omitted 303-4 e Reported	Responsible disposal of wastewater	87	c) Not applicable, since as per Central Ground Water Authority (CGWA) our businesses do not fall under water stress areas d) Not applicable: As all discharge is being sent to CEPT

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
303-5	Water Consumption	303-5 a Reported 303-5 b Omitted 303-5 c Reported 303-5 d Reported	Water Consumption	85	303 – 5 b) Not applicable, since as per Central Ground Water Authority (CGWA) our businesses do not fall under water stress areas 303 – 5 c) BE does not have any kind change in water storage that would have any significant water related impact
Product responsibility					
GRI 3-3	Management of material topics		Product Responsibility	112	
GRI 417: Marketing and Labelling 2016					
417-1	Requirements for product and service information and labelling	417-1 a Reported	Product responsibility	112	
417-2	Incidents of non-compliance concerning product and service information and labelling	417 -2 a Omitted 417-2 b Omitted	Product responsibility Product responsibility	112	417 – 2 Not applicable: No incidents of noncompliance received
417-3	Incidents of non-compliance concerning marketing communications	417 -3 a Reported 417-3 b Reported	Product responsibility	112	Not applicable: No incidents of noncompliance received
Community Responsibility					
GRI 3-3	Management of Material topics		Community Responsibility	104	
GRI 413: Local Communities 2016					
413-1	Operations with local community engagement, impact assessments, and development programs	413-1 a Reported	Social Capital and Relationship capital	104	

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
413-2	Operations with significant actual and potential negative impacts on local communities	413-2 a Omitted	-		None of our operations have a negative impact on the local communities Since all the manufacturing operations fall in industrial area local authority.
Customer health and safety					
GRI 3-3	Management of material topics			112	
GRI 416: Customer health and safety 2016					
416-1	Assessment of the health and safety impacts of product and service categories	416-1 a Reported	Product Responsibility	112	
416-2	Incidents of non-compliance concerning the health and occus of products and services	416 2 a Omitted 416-2 b Omitted			Not appliable: No complaints concerning non compliance reported
Other topic disclosures determined as not material					
GRI 201: Economic performance 2016					
201-1	Direct economic value generated and distributed	201-1 a Reported 201-1 b Reported	Financial Capital	70	
201-2	Financial implications and other risks and opportunities due to climate change	Omitted			201-2: Not applicable
201-3	Defined benefit plan obligations and other retirement plans	Omitted			201 – 3: Confidentiality constraints
201-4	Financial assistance received from government	Omitted			201 – 4: Not applicable

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
GRI 204: Procurement Practices 2016					
204-1	Proportion of spending on local suppliers	204-1 a Reported 204-1 b Reported 204-1 c Reported	Responsible Sourcing	117	
GRI 206: Anti-competitive Behavior 2016					
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	206-1 a Omitted 206-1 b Omitted	Business Ethics	43	No legal actions have been reported
GRI 302: Energy 2016					
302-1	Energy consumption within the organization	302 -1 a: Reported 302 -1 b: Omitted 302 -1 c: Reported 302 -1 d: Omitted 302 -1 e: Reported 302 -1 f: Reported 302 -1 g: Reported	Energy and Emissions	89	302 – 1 b. Not applicable: As currently BE does not consume any energy from renewable sources 302 – 1 c (ii, iii, iv) Not applicable: BE does not have any heating, cooling, and steam consumption for any of its activities. 302 – 1 d. Not applicable, as BE does not sell any heating, cooling, or steam.
302-2	Energy consumption outside the organization	Omitted	GRI Index		302 – 2: Not applicable
302-3	Energy intensity	Reported	Energy and Emissions	90	
302-4	Reduction of energy consumption	Partially reported 302-4 a – Reported 302-4 b – Reported 302-4 c – Omitted 302-4 d – Reported	Our Business Excellence	48	302 – 4 c: We are in process of setting a base year and targets. For now, we are using last year as reference.

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
302-5	Reductions in energy requirements of products and services	Omitted	GRI Index		302 – 5: Not applicable: BE's business activities are on production of pharmaceutical and vaccine products.
GRI 305: Emissions 2016					
305-1	Direct (Scope 1) GHG emissions	305 – 1 a: Reported 305-1 b: Reported 305 – 1 c: Omitted 305 – 1 d: Omitted 305 – 1 e: Reported	GHG Emissions	91	305-1 b Emissions reported include only CO ₂ e gas 305-1 c Not applicable: We do not track Biogenic emissions currently 305-1 d Information unavailable: We are in process of setting a base year and targets. For now, we are using last year as reference. 305 – 1 e: Biological E uses emission factors 305-2 f BE uses the operational control method to aggregate its emission
305-2	Energy indirect (Scope 2) GHG emissions	305 – 2 a: Reported 305 – 2 b: Omitted 305 – 2 c: Reported 305 – 2 d: Omitted 305 – 2 e: Reported 305 – 2 f: Reported 305 – 2 g: Reported	GHG Emissions	91	305 – 2 b Not applicable: Emissions are not calculated by market-based approach 305-2 c Emissions reported include only CO ₂ e gas 305-2 d Information unavailable: We are in process of setting a base year and targets. For now, we are using last year as reference. 305-2 f Operational control method is used to aggregate its emission.

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
305-3	Other indirect (Scope 3) GHG emissions	Omitted	-	-	Information unavailable: Currently, we do not actively track Scope 3 emissions. However, we recognize the importance of addressing these emissions and incorporating them into our sustainability strategy moving forward. It is a priority for us to develop plans for monitoring and managing Scope 3 emissions in the future.
305-4	GHG emissions intensity	305 – 4 a: Reported 305 – 4 b: Reported 305 – 4 c: Reported 305 – 4 d: Reported	GHG Emissions	91	305-4 d Emissions reported excludes SF ₆ , NF ₃
305-5	Reduction in GHG emissions	305 – 5 a: Reported 305 – 5 b: Reported 305 – 5 c: Reported 305 – 5 d: Reported 305 – 5 e: Reported	GHG Emissions	93	305-5 b Emissions reported excludes SF ₆ , NF ₃ 305-1 d Information unavailable: We are in process of setting a base year and targets. For now, we are using last year as reference.
305-6	Emissions of ozone-depleting substances (ODS)	305 – 6 a: Reported 305 – 6 b: Reported 305 – 6 c: Reported 305 – 6 d: Reported	GHG Emissions	94	

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
305-7	Nitrogen oxides (NOx), sulphur oxides (SOx), and other significant air emissions	305 – 7 a: Reported 305 – 7 b: Reported 305 – 7 c: Reported	GHG Emissions	93	305 7 a: Data is reported on NOX, SOX, SPM 305 7 b: Data is received from the lab results
GRI 306: Waste 2020					
306-1	Waste generation and significant waste-related impacts	306-1 Omitted		96	306-1 Not applicable: No significant waste related impact was identified in our supply chain
306-2	Management of significant waste-related impacts	306-2 a Reported 306-2 b Omitted 306-2 c Reported	Waste Management @ Biological E	96	306 – 2 b Not applicable
306-3	Waste generated	306-3 a Reported 306-3 b Reported	Waste Management @ Biological E	96	
306-4	Waste diverted from disposal	306-4 a Reported 306-4 b Reported 306-4 c Reported 306-4 d Reported 306-4 e Reported	Waste Management @ Biological E	97	
306-5	Waste directed to disposal	306-4 a Reported 306-4 b Reported 306-4 c Reported 306-4 d Reported 306-4 e Reported	Waste Management @ Biological E	97	

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
GRI 308: Supplier Environmental Assessment					
308-1	New suppliers that were screened using environmental criteria	Reported	Our Goals and Targets	66	
308-2	Negative environmental impacts in the supply chain and actions taken	308-2 a Reported 308-2 b Omitted 308-2 c Omitted 308-2 d Omitted 308-2 e Omitted	Our Goals and Targets	66	308 – 2 b Not applicable: No significant negative social impact in our supply chain 308 – 2 c Not applicable: No significant negative social impact in our supply chain 308 – 2 d Not applicable: No significant negative social impact in our supply chain 308 – 2 e Not applicable: No significant negative social impact in our supply chain
GRI 401: Employment 2016					
401-1	New employee hires and employee turnover	401-1 a Reported 401-1 b Reported	Attracting and retaining talent	125, 126	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Partially Reported	Employee Benefits	127	401-2 (iii) Currently we do not have disability and invalidity coverage 401-2 (vi) This information is considered confidential. Therefore, it is not disclosed

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
401-3	Parental leave	Reported	Employee turnover	126	
GRI 403: Occupational Health and Safety 2018					
403-1	Occupational health and safety management system	Reported	Employee health and safety	132	
403-2	Hazard identification, risk assessment, and incident investigation	403-2 a Reported 403-2 b Reported 403-2 c Reported 403-2 d Reported	Employee health and safety	133	
403-3	Occupational health services	Reported	Employee health and safety	132	
403-4	Worker participation, consultation, and communication on occupational health and safety	Reported	Employee health and safety	133	
403-5	Worker training on occupational health and safety	Reported	Employee health and safety	135	
403-6	Promotion of worker health	Reported	Employee health and safety	87	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Reported	Employee health and safety	132	
403-8	Workers covered by an occupational health and safety management system	Reported	Employee health and safety	133	
403-9	Work-related injuries	Reported	Employee health and safety	132	

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
403-10	Work-related ill health	Reported	Employee health and safety	132	
GRI 404: Training and Education 2016					
404-1	Average hours of training per year per employee	Reported	Training and Development	123	
404-2	Programs for upgrading employee skills and transition assistance programs	404 -2 a Reported 404 -2 b Omitted	Training and Development	123	404-2 b Not applicable: Transition assistance programs are not applicable, thus they are not relevant in this context.
404-3	Percentage of employees receiving regular performance and career development reviews	Reported	Employee benefits	127	
GRI 405: Diversity and Equal Opportunity 2016					
405-1	Diversity of governance bodies and employees	Reported	Corporate governance	35	
405-2	Ratio of basic salary and remuneration of women to men	Omitted			405 - 2: Confidentiality constraint
GRI 408: Child Labor 2016					
408-1	Operations and suppliers at significant risk for incidents of child labor	Omitted			408-1: Not applicable: No child labour risks identified in our operations and value chain
GRI 409: Forced or Compulsory Labor 2016					
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Omitted			409-1: Not applicable: No forced labour risks identified in our operations and value chain

GRI Disclosures	Description	Status	Section cross-reference	Page no.	Remarks / Reason for omission
GRI 414: Supplier Social Assessment 2016					
414-1	New suppliers that were screened using social criteria	Reported	Responsible Sourcing	117	
414-2	Negative social impacts in the supply chain and actions taken	414 – 2 a: Reported 414 – 2 b: Omitted 414 – 2 c: Omitted 414 – 2 d: Omitted 414 – 2 e: Omitted	Responsible Sourcing	117	414-2 b, 414-2 c, 414-2 d & 414-2 e: Not applicable: No significant negative social impact in our supply chain

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Abbreviations

ANDA	Abbreviated New Drug Application
API	Active Pharmaceutical Ingredients
BEEP	Biological E. Employee Portal
BIRAC	Biotechnology Industry Research Assistance Council
CEPI	Coalition for Epidemic Preparedness Innovation
CSR	Corporate Social Responsibility
DGCI	Drugs Controller General of India
DI	Drug Intermediates
ESI	Employee State Insurance
GCP	Good Clinical Practice
GMP	Good Manufacturing Practices
GWP	Global Warming Potential
IAEC	Institutional Animal Ethics Committee
ICH	International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use
IBR	Integrated Business Review Committee
IBSC	Institutional Biosafety Committee
IPV	Inactivated Polio Vaccine
ISO	International Organization for Standardization
KL	Kilo Litre
KSM	Key Starting Materials
ML	Million Litre
NCI	National Cancer Institute
OH&S	Occupational Health and Safety
PCV	Pneumococcal Conjugate Vaccine
PQCDSM	Productivity, Quality, Cost, Delivery, Safety, Morale
SAB	Scientific Advisory Board
SHEC	Safety, Health and Environment Committee
TCV	Typhoid Conjugate Vaccine
UNSDG	United Nations Sustainable Development Goal
USFDA	U.S. Food and Drug Administration
WHO	WHO World Health Organization



Assurance Statement

INDEPENDENT ASSURANCE

OPINION STATEMENT

Statement No: **SRA-IND-680600**

Biological E. Limited Sustainability Report 2021-2023

The British Standards Institution is independent to Biological E. Limited (BE) and has no financial interest in the operation of BE other than for the assessment and assurance of this report.

This independent assurance opinion statement has been prepared for BE only for the purposes of assuring its statements relating to its Sustainability report, more particularly described in the scope, below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This statement is intended to be used by stakeholders & management of BE. The stage 1 assurance was completed by using hybrid model of onsite visits and remote assessment using immersive techniques which was conducted over Microsoft Teams video-conferencing tool, where the assessor and the client representatives connected through the computer systems and internet. All the sites covered in the scope of verification were verified by using physical onsite visits for economic and environmental KPIs individually, and overall social KPIs for all the sites were verified by using remote assessment.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by BE. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to BE only.



Scope

The scope of engagement agreed upon with BE includes the following:
 1. The assurance covers the Sustainability Report 2021-2023 of the BE, prepared "In accordance" with GRI Universal Standards 2021, and focuses on systems and activities of BE covering the manufacturing unit's vaccine division located in Shameerpet, Gaganpahad, and Shameerpet SEZ, as well as for pharma division operating from Shameerpet, Patancheru, Azamabad, Dehradun and corporate office at Jubilee Hills, Hyderabad in India during the period from 1st April 2021 to 31st March 2023.

2. The AA1000 Assurance Standard, AA1000AS v3, Type 1 moderate level engagement evaluates the nature and extent of BE's adherence to all four AA1000 AccountAbility Principles: Inclusivity, Materiality, Responsiveness, and Impact. The specified sustainability performance information/data disclosed in the report has been evaluated.

Opinion Statement

Our work was carried out by a team of sustainability report assurers in accordance with the AA1000 Assurance standard, AA1000AS v3 and GRI Universal Standards 2021. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that BE's description of their self-declaration of compliance with the GRI Standards were fairly stated.

We conclude that the BE's Sustainability Report 2021-2023 review provides a fair view of the BE's CSR programmes and performances during FY 2021-2022 & FY 2022-2023. We also believe that the sustainability report 2021-2023 economy, environment, and people performance disclosures are fairly represented. The sustainability performance disclosures disclosed in the report demonstrate BE's efforts recognized by its stakeholders. The intended users of our assurance report are the management and stakeholders of BE.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- A top-level review of issues raised by external parties that could be relevant to BE's policies to provide a check on the appropriateness of statements made in the report.
- Discussion with senior executives and their external consultant on BE's approach and methodology of collection and evaluation of stakeholder engagement. We had no direct contact with external stakeholders.
- Interview with staff and authorities involved in sustainability management, report preparation and provision of report information were carried out.
- Review of key organizational developments.
- Review of supporting evidence for claims made in the reports.



- An assessment of the company's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality and Responsiveness as described in the AA1000 AccountAbility Principles Standard v3.
- A sample-based assessment of the reliability and quality of information as company's performance provided in the sustainability report.

Conclusions

A detailed review against the AA1000 AccountAbility Principles of Inclusivity, Materiality, Responsiveness, and Impact and the GRI Standards is set out below:

Inclusivity

This report has reflected a fact that BE is seeking the engagement of its stakeholders through numerous channels such as Meetings with regulators, business partners, suppliers, investors, and employees along with feedback processes from customers, and submission of various reports to the relevant stakeholders. The process of stakeholder engagement clearly addresses the various types of stakeholders involved, their modes of engagement together with their frequencies of interaction. Stakeholder interaction exercise has been conducted across own operations covering all management levels to identify and understand their concerns among the identified universe of material topics.

This report focuses on the activities undertaken by Biological E. Limited covering the manufacturing unit's vaccine division located in Shameerpet, Gaganpahad, and Shameerpet SEZ, as well as for pharma division operating from Shameerpet, Patancheru, Azamabad, Dehradun and corporate office at Jubilee Hills, Hyderabad in India during the period from 1st April 2021 to 31st March 2023. This report covers the fair reporting and disclosure for economy, environment, and people information.

In our professional opinion, the report covers the BE's inclusivity issues that demonstrates participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.

Materiality

BE publishes sustainability information that enables its stakeholders to make informed judgments about the company's management and performance.

The material topics identified are Anti-corruption, Water and Effluents, Marketing and Labelling, Local communities, Customer health and safety. The adequacy of previous year identified material topics were assessed internally and same were adopted for the current reporting year.



In our professional opinion the report covers the BE's material issues by using BE materiality matrix, internal and external stakeholder consultation and boundary mapping.

Responsiveness

BE has implemented the practice to respond to the expectations and perceptions of its stakeholders. Feedback from all the internal stakeholder representatives were collected along with few selected external stakeholders.

In our professional opinion nothing has come to our attention to suggest that the responses related to identified material topics are not adequately represented in the report.

Impact

BE has also demonstrated that adequate systems are in place to monitor, measure and be accountable for their actions that affect the economy, the environment, society, stakeholders, and the organization itself.

GRI-reporting

Biological E. Limited provided us with their self-declaration of compliance "In accordance with" the GRI Universal Standard, 2021.

Based on our verification review, we are able to confirm that social responsibility and sustainable development disclosures in all 3 categories (Economy, Environment, People) are reported "In accordance with" the GRI Universal Standard 2021. It is the responsibility of BE corporate to notify GRI post publishing the report.

In our professional opinion the self-declaration covers BE Corporate's social responsibility and sustainability issues. On the basis of the verification undertaken, nothing has come to our attention to suggest that the report does not properly describe the general disclosures (GRI 2-1 to GRI 2-30), materiality related disclosures (GRI 3-1 to GRI 3-3) and the following topic disclosures as stipulated in the GRI Standards:

- GRI 205: Anti-corruption 2016 - 205-1, 205-2
- GRI 303: Water and Effluents 2018 – 303-1, 303-2, 303-3, 303-4, 303-5
- GRI 413: Local Communities 2016 - 413-1
- GRI 416: Customer health and safety 2016 – 416-1
- GRI 417: Marketing and Labelling 2016 - 417-1



Biological E. Limited has also disclosed other non-material topic disclosures (GRI 201-1, GRI 204-1, GRI 302-1, GRI 302-3, GRI 302-4, GRI 305-1, GRI 305-2, GRI 305-4, GRI 305-5, GRI 305-6, GRI 305-7, GRI 306-2, GRI 306-3, GRI 306-4, GRI 306-5, GRI 308-1, GRI 308-2, GRI 401-1, GRI 401-2, GRI 401-3, GRI 403-1, GRI 403-2, GRI 403-3, GRI 403-4, GRI 403-5, GRI 403-6, GRI 403-7, GRI 403-8, GRI 403-9, GRI 403-10, GRI 404-1, GRI 404-2, GRI 404-3, GRI 405-1, GRI 414-1, GRI 414-2) in their sustainability report for the period 2021-23.

Competency and Independence

The assurance team was composed of Lead auditors experienced in industrial sector, and trained in a range of sustainability, environmental and social standards including GRI Universal Standard 2021, AA1000AS, ISO10002, ISO 14001, ISO 45001, ISO 14064, ISO 50001 and ISO 9001, etc. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

Assurance Level

The type 1 moderate level of assurance provided is in accordance with AA1000 Assurance standard, v3 in our review as defined by the scope and methodology described in this statement.

Responsibility

It is the responsibility of BE’s senior management to ensure the information presented in the sustainability report is accurate. It is also left to the decision of the BE management on the publishing / submission of the report to any of their stakeholders. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Reliability

The assurance statement on the performance was issued based on the evidence collected from ground level provided by the employees of BE. The sample selection was on random basis and selection is done by BSI auditor.

The assessment covering the manufacturing unit’s vaccine division located in Shameerpet, Gaganpahad, and Shameerpet SEZ, as well as for pharma division operating from Shameerpet, Patancheru, Azamabad, Dehradun and corporate office at Jubilee Hills, Hyderabad in India during the period from 1st April 2021 to 31st March 2023. The assurance team was convinced that the performance information presented in the report are reliable and representative.



Quality

The quality of information was checked through cross verification of data. Field level measurement and records were verified with the procurement and supply chain invoices/bills. Interview with the responsible persons detailed the activities, maintenance, and process performance. The fitness of the measuring devices, frequency of measurement and recording, competency of the person concerned, and review & approval of information were checked and found in conformance.

Performance Information

BE Sustainability Report has addressed their Economy, Environment, and People performance through GRI Universal Standard 2021 topic disclosures. The assurance team has evaluated the requirements of the GRI disclosures for general disclosures and those relevant to the material topics and non-material topics as well.

For the specific data presented in the report, technical/compilation errors which were identified during the sampling process were corrected and presented in the final report.

Based on the processes and procedures conducted with a moderate assurance, there is no evidence that the Economy, Environment and People data information presented in the Biological E. Limited’s Sustainability Report for the period 2021-2023 are not materially correct and are not a fair representation of their Economy, Environment and People performance.

For and on behalf of BSI:

Theuns Kotze
Managing Director,
BSI Group India Pvt Ltd.

18th December 2023



Queries or comments related to this report may be directed to Mr. Anil Kumar Chiti, Vice President, Sustainability
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Biological E. Limited
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