

Report On

Environmental sustainability in Bangladesh and initiative and impact of Coats Bangladesh to ensure sustainable development

By

Tonmoy Zahir
21282009

An internship report submitted to the BRAC Institute of Governance and Development (BIGD),
BRAC University in partial fulfillment of the requirements for the degree of
Masters in Procurement and Supply Management(MPSM)

BRAC Institute of Governance and Development (BIGD)
Brac University
July, 2023

© 2023, Brac University
All rights reserved.

Declaration

It is hereby declared that

1. The internship report submitted is my own original work while completing degree at BRAC University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

Student's Full Name & Signature:

Tonmoy Zahir

21282009

Supervisor's Full Name & Signature:

Rajmoni Singha, PhD

Sr. Manager-Academic and Training, BIGD

BRAC University

Letter of Transmittal

Rajmoni Singha

Sr. Manager-Academic and Training, BIGD

BRAC University

66 Mohakhali, Dhaka-1212

Subject: Submission of PSM 665: Supply Chain Management in Practice- Report/Practicum

Dear Sir,

With due respect and humble submission, I would like to submit my internship report entitled "Environmental sustainability in Bangladesh and initiative and impact of Coats Bangladesh to ensure sustainable development" as partial requirement to fulfillment to Masters of Procurement and Supply Management(MPSM) at BIGD, BRAC University.

I have attempted my best to finish the report with the essential data and recommended proposition in a significant compact and comprehensive manner as possible. I sincerely hope that this report meets the standards that is expected from your end.

Sincerely yours,

Tonmoy Zahir

21282009

BIGD

BRAC University

28th July, Sunday 2023

Non-Disclosure Agreement

This agreement has made and entered into by and between Coats Bangladesh Ltd. as the First Party and the undersigned student at BRAC Institute of Governance and Development, BRAC University as the Second Party. The First Party has allowed the Second Party to prepare a report on “Environmental sustainability in Bangladesh and initiative and impact of Coats Bangladesh to ensure sustainable development“ in partial fulfillment of the requirements for the degree of Masters of Procurement and Supply Management. The Second Party will have the opportunity to work closely with the officials of the organization and have access to official data and information. Based on work experience, data, and information collected the Second Party will prepare a report. The Second Party will use all sorts of data and information for academic purposes and will not disclose to any party against the interests of the First Party.

Student’s Full Name and Signature

Tonmoy Zahir
21282009

Organizational Supervisor’s Full Name and Signature

Shami Murshed Nazir
Procurement Business Partner (Bangladesh and Pakistan)

Acknowledgement

I would like to express my gratitude to the Almighty Allah to give me this opportunity to complete this report in a good health. My sincere gratitude goes to my academic supervisor Mr. Rajmoni Singha (PhD), Sr. Manager-Academic and Training, BIGD, BRAC University for his excellent guidance to establish this report in a meaningful way. I would also like to thank my workplace supervisor Mr. Shami Murshed Nazir, Procurement Business Partner(Bangladesh and Pakistan) for his great assistance and suggestions which helped me to complete the report. Next I would like to thank Mr. Provas Das, Manufacturing Director of Coats Bangladesh Ltd. for his guidance and permission to use the confidential data for this research purpose. None of this wouldn't have been possible without the support of my family and my sincere gratitude to them. Special thanks to my fellow batchmates of MPSM for their encouragement and support.

Executive Summary

This executive summary provides an overview of environmental sustainability and highlights the initiatives undertaken by Coats Bangladesh, a leading textile manufacturer, to ensure sustainability in its operations. It outlines the proactive steps taken by Coats Bangladesh to address environmental sustainability focusing on four areas (Water, Energy, Effluent and Materials)

Industries, including the textile sector, play a significant role in environmental degradation through resource consumption, pollution, and waste generation. Coats Bangladesh has emerged as a frontrunner in the textile industry by prioritizing environmental sustainability who understands that sustainable practices not only benefit the environment but also contribute to operational efficiency and long-term business success. Coats has shown its dedication to fostering a greener and more sustainable future by incorporating environmental sustainability into its core business strategy.

Responsible business practices must prioritize environmental sustainability, and Coats is doing that by putting several initiatives into place which will be discussed in this report.

Keywords: Sustainability; Water; Energy

Table of Contents

| | |
|--|-------|
| Declaration..... | ii |
| Letter of Transmittal | iii |
| Non-Disclosure Agreement | iv |
| Acknowledgement | v |
| Executive Summary | vi |
| Table of Contents | vii |
| List of Tables | viii |
| List of Figures | ix |
| List of Acronyms | x |
| Chapter 1 INTRODUCTION | 1-2 |
| 1.1 Environmental Sustainability in Bangladesh..... | 2 |
| 1.2 Company Introduction | 2 |
| 1.3 Company Focus | 2 |
| Chapter 2 WATER AND COATS BANGLADESH INITIATIVES | 3-5 |
| Chapter 3 ENERGY AND COATS BANGLADESH INITIATIVES | 6-12 |
| Chapter 4 EFFLUENT AND COATS BANGLADESH INITIATIVES | 13-15 |
| Chapter 5 MATERIALS AND COATS BANGLADESH INITIATIVES | 16-18 |
| Chapter 6 CHALLENGES, RECOMMENDATIONS AND CONCLUSION..... | 19-20 |
| 6.1 Challenges | 20 |
| 6.2 Recommendations | 20 |
| 6.3 Conclusion | 20 |
| References | 21 |

List of Tables

| | |
|--|----|
| Table 1: Energy Reduction based on 2018 data | 12 |
|--|----|

List of Figures

| | |
|--|----|
| Figure 1: 5 pillars of Sustainability..... | 2 |
| Figure 2: Water consumption per KG of dyeing from 2018-2022) | 4 |
| Figure 3: Biological ETP | 4 |
| Figure 4: Previous and new process | 5 |
| Figure 5: Key Features of ESG e-sight..... | 7 |
| Figure 6: Exhaust Gas Boiler..... | 8 |
| Figure 7: Economizer | 9 |
| Figure 8: Thermal Image Camera and measuring process | 9 |
| Figure 9: Dyeing Machine | 10 |
| Figure 10: RF Dryer..... | 10 |
| Figure 11: Final Winding Section..... | 10 |
| Figure 12: Transparent Wall Sheets at floor | 11 |
| Figure 13: Inverter..... | 11 |
| Figure 14: Roof Top Solar Panel | 11 |
| Figure 15: The New Effluent Treatment | 14 |
| Figure 16: The new ETP functional Diagram..... | 14 |
| Figure 17: % of waste relative to production volume | 17 |

List of Acronyms

Co2 : Carbon Di Oxide

UK : United Kingdom

FTSE : The Financial Times Stock Exchange

UN : United Nations

KG : Kilogram

ETP : Effluent Treatment Plant

ML : Million liter

SDG : Sustainable Development Goal

3R : Reduce, Reuse and Recycle

DMAIC: Define, Measure, Analyze, Improve and Control

ESG :Environmental, Social, and Governance

EGB : Exhaust Gas Boiler

PPPU : Pressure Power Packaged Pumping Unit

LLR : Low Liquid Ratio

RF : Radio Frequency

IoT : Internet of Things

CFL : Compact Fluorescent Light

LED : Light Emitting Diode

CEO : Chief Executive Officer

FICCI : The Foreign Investor's Chamber of Commerce and Industry

CI : Continuous Improvement

DOE : Department of Environment

SCADA : Supervisory Control and Data Acquisition system

ZDHC :Zero Discharge of Hazardous Chemicals

CRSL : Coats Restricted Substances List

ISO : International Organization for Standardization

IBC : Intermediate Bulk Container

GSM : Gram per Square Meter

Chapter 1:
INTRODUCTION

1.1: Environmental Sustainability in Bangladesh

Bangladesh is a densely populated country in South Asia, faces numerous environmental challenges due to its geographical location, vulnerability to climate change, and rapid urbanization. Bangladesh uses large amount of plastics, paper, and water. Then it consumes larger amount of energy that will lead to shortage in future. Keeping these in consideration, Bangladesh Government has focused on maintaining environmental sustainability targeting various measures such as water consumption reduction, Co2 emission reduction, fuel consumption reduction through renewable energy source, waste and effluent reduction. and also are encouraging different organizations to maintain environmental sustainability. Sustainability is the most asserted global concern nowadays. It is maintaining environmental sustainability that will ensure better and greener future. So, top emphasis need to be provided and investments need to be made by organizations to reduce water, energy, effluent, plastic, and paper usage.

1.2: Company Introduction

Coats is the world's leading industrial thread company with more than 250 years of history and its Headquartered locates in the UK. Coats operate in more than 70 countries and the employer network of 20,000 industrial leading experts. Coats is an FTSE 250 listed company and a constituent of the FTSE4 Good Index. In addition, Coats is a proud participant in the UN Global compact.

Coats Bangladesh is a highly successful joint venture between Coats and the AK Khan Group which started in October 1989. Coats Bangladesh's head office locates in Tejgaon, Dhaka, and the first factory opening in 1990 in Chittagong followed by a second factory in Gazipur in 2000. Both factories have continued to increase capacity to manufacture an ever increasing and diverse range of products to supply both the growing requirement of Bangladesh and global exports

1.3: Company Focus

Coats globally and locally have been at the forefront of the sustainability journey for a long time. Coats BD raised its ambitions in this regard even further during 2022. In 2019, Coats launched its ambitious new strategy for Coats called 'Pioneering a sustainable future. This focuses on five priority areas where Coats can accelerate progress through the targeted investment of capital and resources. These are:

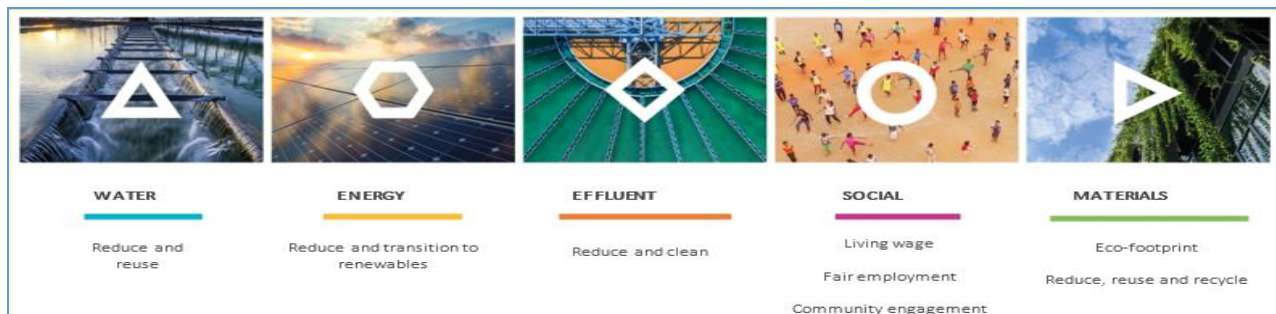


Figure 1: 5 pillars of Sustainability

Chapter 2:
WATER AND COATS BANGLADESH INITIATIVES

Water is a precious natural resource. Manufacturing Industries especially dyeing processes, use significant volumes of water. Coats recognize the responsibility to use water as efficiently as possible to ensure that Coats water extraction activities create no negative impact on the local communities and biodiversity in the areas where Coats operate. Over the last years, Coats Bangladesh has been focusing on delivering significant reductions in water intensity, through elimination of wasteful or unnecessary uses.

Taking different initiatives, Coats Bangladesh Ltd has reduced the water consumption by **39%**

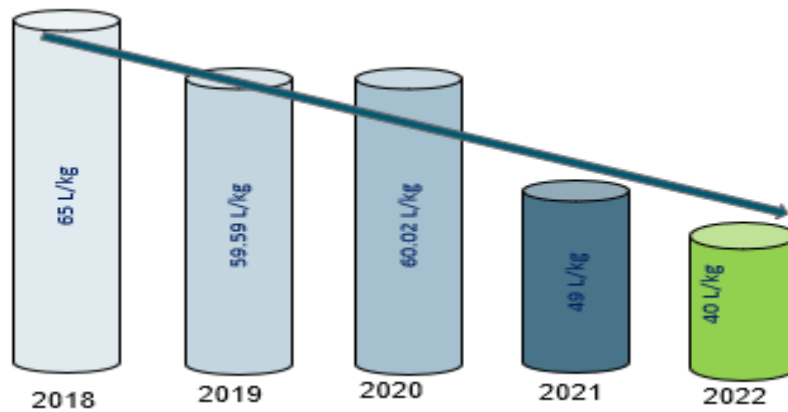


Figure 2: Water consumption per KG of dyeing from 2018-2022

A few initiatives have taken and these are described below:

1. **Coats BD Biological ETP – State of Art on Water Recycle**



Figure 3: Biological ETP

Type of Plant: ETP with Biological Membrane Bio Reactor + Reverse Osmosis plant

Flow: 1600m³/day (Phase-1) upgradable to 2100 m³/day

Water Recovery: 80% recover capabilities and remaining 20% is expected to be available in the future.

- **80%** water will be reused whereby we can reduce groundwater extraction by 500K liters/day and **214 mil liter** per annum
- **144 ton** of sludge will be reduced annually whereby the equal amount of chemical consumption and waste will also be reduced.
- Online monitoring to ensure the compliance of discharge water

2. Dyeing Process Improvement

In Coats manufacturing units, dyeing process is the largest contributor of water consumption. So, Coats considered this process as the highest focused area for water reduction. Thus, export water saving opportunities and reduced water by implementing several initiatives which are below:

- Machine Wash with 50% Water
- Hot Wash Elimination
- Culling Water Return System
- Wet Factor Modification
- Low Liquor Ratio Implementation
- Rinse step deduction from IBN method
- Wet Fill Reduction

All of the above steps have helped to reduce water usage by **72ML/year**

3. Rainwater Reservation & Reuse

Coats have implemented the facility of harvesting 10M Liter rainwater which is being used during the dyeing process. It can back up 1.5 days of dyeing production. This has helped Coats to save water by using less amount of Government supplied pipe water and also facilitating less extraction of ground water.

4. Arresting underground Water leakage

Previously Coats water supply line was set up in underground. It had multiple big leakages which were not visible and draining huge amount of water every day. Coats have arrested all the leakages and set up an overhead water line to get better visibility of any leakage. Water reduction from this project is 8ML/year



Figure 4: Previous and new process

Chapter 3:
ENERGY AND COATS BANGLADESH INITIATIVES

Coats is one of the world leaders in thread manufacturing and structural components for apparel and footwear. The company is innovative in performance materials and also one of the pioneers in sustainability initiatives. Coats is committed to the UN Global Compact and supportive of its Principles; covering human rights, environment, energy, and climate issues. Coats seek to actively extend these principles across the value chain as well as embedded in the operations to deliver 2030 UN Sustainable Development Goals (SDGs). Coats is committed to reducing emissions in line with the **COP2 1.5°C** pathway to play the part in minimizing climate change risks by following of 3R (Reduce, Reuse, and Recycle) principle. Being the global business leader in the industrial thread, Coats sets ambitious sustainability strategy targets. **Energy** is one of the prioritized aspects considering its impact on global warming, scarcity and costs. Coats started the journey by setting the 2018 baseline for energy KPI KWH/KG (Energy usage in KWH for 1 kg of thread production), and set the target of consuming **7% less energy by 2022, globally from the 2018 baselines** and Coats Bangladesh operation has reduced over **29%** of energy consumption and became one of the top most contributors in achieving the global target. Coats Bangladesh followed a systematic DMAIC (Define, Measure, Analysis, Improve, and Control) approach and lean tools throughout this journey of excellence and pioneered the embedding culture of managing sustainability.

Below are some of the many innovative and game-changing initiatives that helped in this outstanding achievement as follows:

1. ESG Utility Tool:

To manage energy effectively, it is critical to know where we are consuming and what type of energy are in which pattern. CBL has incorporated **ESG** (Environmental, Social, and Governance) utility tool to support data monitoring and analysis. Under this project, Coats have installed 100+ energy meters in the factories that covered all the critical equipment/zones/machines and live data are being streaming continuously. Thus the whole plant's energy consumption are being tracked from a single computer window or remotely. The **e-sight** dashboard is embedded with an alert, alarm, and report generation system. Also, the customized dashboard can be prepared based on the requirement.

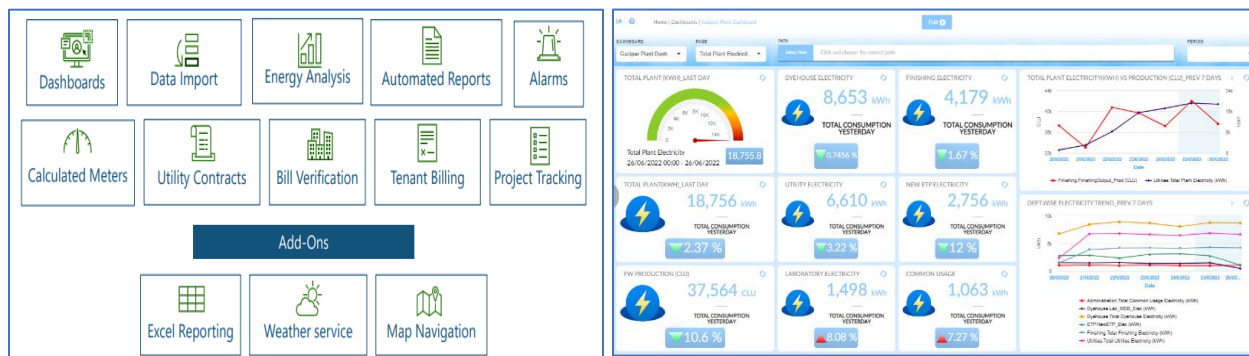


Figure 5: Key Features of ESG e-sight

2. Energy efficiency improvement by Waste Heat Recovery system

For energy management, it is critical to reduce heat waste that happens in the different forms of energy from different energy-generating devices (Generators, Boilers) and processes (Dyeing Machines, steam

circuits, etc.). Coats Bangladesh primarily focused on reducing heat waste by incorporating multiple technology and process improvement such as;

Energy Co-Generation: Coats Bangladesh has incorporated the Exhaust Gas Boiler (**EGB**) for the co-generation of steam. **The EGB** generates steam by using heat from Exhaust flue gas having 400°C temperature from the Gas/Diesel Generator. This high temperature flue gas is being used as heat source to generate steam at EGB, thus flue gas temperature reduces to 130°C. After incorporating EGB, Coats is enjoying about 18 tons/day of steam without fuel and minimizing **CO₂ by 360 tons/year and resulting in a 13% thermal efficiency improvement from the Gas/Diesel Generator.**



Figure 6: Exhaust Gas Boiler

3. Heat recovery from Gas Generator Engine jacket water:

Coats Bangladesh has incorporated a unique technique to recover heat that is generated by the Gas Generator Engine. Cooling Tower is a traditional equipment to cool down the generator. Instead of cooling tower, we are using normal water to cool down the generator. While passing through the generator, normal water becomes warm (from 30°C to 50°C) by exchanging heat with generator. This warm water is being used in dyeing process to save energy since we need water of 135°C for dyeing process. As a result, Coats Bangladesh is enjoying 600 MWh/year energy savings which resulted in about 135 tons/year CO₂ emission savings to the environment.

4. Condensate Recovery System (CRS):

This is another impactful project to optimize the utilization of steam. It works with the Pressure Power Packaged Pumping Unit (PPPU). The series connection of PPPU collects the condensate after the steam trap of the dyeing machines. The condensate water is then moved to the PPPU unit and mechanically pumped to the feed water tank of the Boiler. Incorporation of this process has improved the Boiler efficiency significantly and thereby reduced the fossil fuel and water consumption.

5. Waste Heat Recovery by Economizer

Like EGB, similar technology of utilizing flue gas temperature of boiler has been applied to pre-heat boiler inlet water which is typically known as Economizer. Earlier boiler inlet water temperature by mixing with condensate and process water was **55°C** which converted to steam at **150°C** with fuel source gas/diesel, and allowing flue gas emission into the environment at a temperature of **210°C and thus wasting heat.** Coats Bangladesh recovered this waste heat from boiler flue gas by installing an “**Economizer**” in the flue

gas circuit. As a result, the Feed water of the boiler is heated from **55°C to 90°C** and the boiler flue gas temperature cools down to **120°C** from **210°C**. In this way, Coats Bangladesh is discharging low-temperature exhaust, which is eco-friendly, reducing CO₂ emissions, and saving fuel consumption.

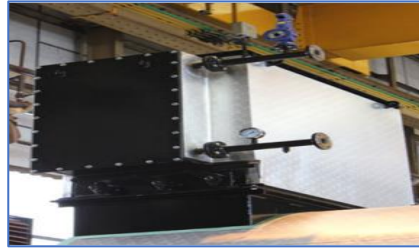


Figure 7: Economizer

6. Steam Insulation

Coats Bangladesh has established an effective insulation-management program to confirm proper insulation of steam circuits through periodic checking of the effectiveness of insulation by the Thermal Imaging Camera. This is to confirm both energy conservation by reducing heat waste and hazard removal for potential hot surface contact with operators.

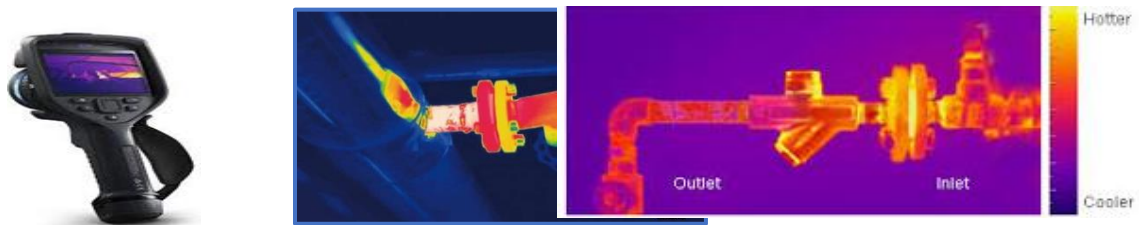


Figure 8: Thermal Image Camera and measuring process

7. Energy consumption optimization through Process Improvement

The primary consumer of all the utilities is the production process and the effectiveness of energy depends on how well we are managing these scarce resources at the user end. Coats Bangladesh team has been reviewing the end-to-end process critically to identify opportunities as below for improvement and taking actions.

Some initiatives are described in next page

a. Dyeing Process optimization: As part of Coats latest technology search, Coats Bangladesh has installed a new generation dyeing vessel with a Low Liquor Ratio (LLR) design, also known as I-Cone dyeing vessels which consume 20% less energy and over 40% less water. Based on the learning from the new technology, Coats have refurbished and converted all our conventional dyeing vessels to dye with a Low Liquor Ratio and consume less electricity and water. The team also is continuously looking for optimizing the dyeing cycles to be water and energy efficient by leveraging both local and global talents through team collaboration.



Figure 9: Dyeing Machine

b. Drying Process optimization: Coats Bangladesh has incorporated a new generation type of Radio Frequency (RF) dryer that uses steam instead of electricity for heat generation and consumes 44% less energy. Coats have applied the same technology in our existing conventional RF dryers and reduced electricity consumption by 35%.



Figure 10: RF Dryer

c. Final Winding: In the final winding process, old machines were replaced with new-generation IoT-enabled winding machines that consume 20% less energy. Also, in the traditional winding machines, Coats replaced the heating system of lubrication that resulted in **25%** less electricity consumption used for lube heating.



Figure 11: Final Winding Section

8. Energy Conservation by utilization of daylight

Coats Bangladesh is utilizing both side wall and top roof transparent sheets to maximize the utilization of day-light and has been saving over 43 Megawatt/Year electricity. In addition, an energy-efficient approach has been taken by replacing all CFL lights with LED lights across the factory and reducing energy waste by incorporating motion sensors in warehouse and less occupied working areas.



Figure 12: Transparent Wall Sheets at floor

9. Inverter Installation for High Power Consumed Motors and Exhaust Fan Control System

Coats Bangladesh has incorporated Inverter/variable frequency drives in all motors and exhaust fans available at factories to control speed of motor and exhaust fans based on the set criteria automatically. That helped to reduce energy consumptions in all those related devices by 10% to 20% and also increases life time of electronic equipment and devices.



Figure 13: Inverter

10. Journey towards Renewable Energy

Coats set an ambitious goal to convert 70% of conventional energy to renewable energy by 2030, globally. As a part of this, we have utilized Fifty Thousand Square Feet of Warehouse roof to generate 421 kWh of solar energy at our Gazipur facility which will reduce **250 tons/ year** of **CO₂** emission.



Figure 14: Roof Top Solar Panel

As a result of all these initiatives and the basic culture of sustainability improvement, Coats Bangladesh has been reducing energy consumption year on year that is benefiting sustainability along with offsetting the Energy cost inflation.

| Year | Energy reduction (%) |
|-------------|-----------------------------|
| 2019 | 15% |
| 2020 | 23% |
| 2021 | 25% |
| 2022 | 29% |

Table 1: Energy Reduction based on 2018 data

The achievement of Coats Bangladesh Ltd. on sustainability was phenomenal and the effort and contributions have been acknowledged at a group level by awarding the highly acclaimed **CEO Applause Award-Sustainability** for exceptional performance at a **Coats Global Leadership Conference-2023** in Turkey. Also the initiatives have been featured in FICCI (The Foreign Investor’s Chamber of Commerce and Industry) newsletter.

Chapter 4:
EFFLUENT AND COATS BANGLADESH INITIATIVES

Among 5 priorities, Effluent management is the most critical considering its impact on the environment. For the effluents, Coats' strategy is “**Reduce and Clean**”. Under "reduce" initiatives, Coats Bangladesh reduced over 30 % of effluents generation against 2020 and over 40% against the 2018 baseline through different innovative KAIZENs under the Continuous Improvement (CI) program and by incorporating the World’s best technology machinery across the locations. Under the Clean strategy, Coats is confirming 100% effluents discharge compliance concerning the DoE limits and Coats global standard.

To accelerate our ambition to the sustainability, Coats Bangladesh has established its modern digitalized ETP with a beautiful design and state of art technology.



Figure 15: The New Effluents Treatment Unit(ETP),

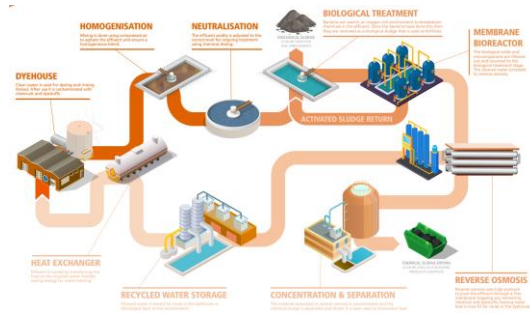


Figure 16: The New ETP, Functional Diagram

The technology of the ETP is based on Biological membrane bio reactor and reverse osmosis with a Xylem online critical parameter monitoring system. The capacity of this ETP is 2100 m3/day with 80% water recycling capacity which is upgradable to Zero Liquid Discharge option with evaporators in the future. The new ETP comprises of four major segments-Biological operations, MBR filtration, RO operation and reject treatment.

The whole plant can be operated from a single computer window or remotely by "Supervisory Control and Data Acquisition system" known as SCADA and all the critical parameters will be monitored by online web based monitoring system supplied by **Xylem**. Due to its 80% recycling capacity, daily about **500,000 liters** of groundwater extraction will be reduced. In addition, this new ETP will reduce **144 Ton** of sludge annually.

ZDHC (Zero Discharge of Hazardous Chemicals) is the foremost textile industry body aimed at reducing the chemical impact of the industry on the environment. 30 signatory brands,50 chemical industry affiliates,35 textile and footwear industry affiliates (including Coats),30 solution provider affiliates and 22 associate organizations have joined the initiative since its inception by six leading brands. It covers the chemical inputs, the processing and the testing and treatment of effluent, all under the leadership and commitment of major brands. Coats signed up to the ZDHC program in 2016 and committed to aligning our effluent standards with those of the program in 2018. Coats adopted the ZDHC conventional parameters with foundational limits as Coats internal standards in 2019. Initially these limits were applied only to effluent discharged from the factory, but in 2019 the scope was expanded to include sludge. **Coats BD is 100% ZDHC compliant since 2018.**

CRSL (Coats Restricted Substances List)-Coats has always been committed to protecting the environment and practicing sustainability. A leader in industry quality standards. COATS's Restricted Substance list has restricted substance, there are more than 500 kinds of harmful substances which are being restricted or even prohibited. The list is widely regarded within the industry as the strictest restricted substance list, and even referenced by many companies.

Coats BD is ISO 14001(International Standard for Environmental Management System) certified for more than a decade now which Coats is confirming a holistic view and a systematic approach to reduce the environmental impact of Coats operation.

Chapter 5

MATERIALS AND COATS BANGLADESH INITIATIVES

This is the fifth pillar of Coats Bangladesh. Coats has taken various initiatives to reduce usage of 2 of the major materials which are plastic and paper. Due to smart implementation of these initiatives, Coats Bangladesh has been able to reduce plastic and paper **by 30%** over last few years. For materials usage and waste reduction, Coats has adopted the 3R (Reduce, recycle and reuse) technique.

Year wise waste reduction data is captured below

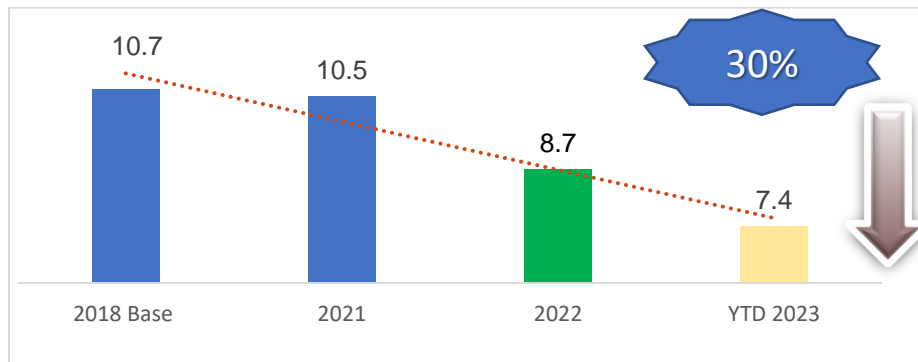


Figure 17: % of waste relative to production volume

Some of the initiatives that Coats has taken is briefly described below:

1. Plastic Recycling

Coats has implemented a process where the plastic that they import is crushed using a crusher machine to make plastic chips which is then handed over to supplier who uses the crushed chips as raw materials and provide plastic cones to Coats Bangladesh. Due to implementation of this process, annual 160 ton plastic waste has been reduced

2. Reusing Cartons

Coats Bangladesh reuses the grey thread cartons that they receive from overseas which enables Coats to reduce paper waste by 95 tons annually

3. Recycled Thread Sales

Coats have emphasized selling recycled threads to their esteemed customer. These grey threads are made from recycled materials which contributes greatly to reduce environmental pollution. Currently annually 1000 tons of recycled threads are being sold to customers.

Some of the other initiatives have taken to reduce waste include

- Receiving dyes chemicals in IBC containers instead of drums which are heavier
- Reducing the paper GSM's of cartons used
- Multiple level packaging elimination

- Poly bag usage reduction
- Using Polypropylene bags instead of paper cartons
- Reducing weight of plastic cones etc.

Also it needs to be mentioned that:

- Raw material of all of Coats Bangladesh cartons are 100% recycled material
- 60% raw material of Coats cones are made of recycled plastic

Above all projects taken have made sure that materials usage and waste % is kept at a minimum level and also future actions are in place so that % is even lower.

Chapter 6

CHALLENGES, RECOMMENDATIONS AND CONCLUSION

6.1 Challenges:

All projects face some challenges during implementation. The above mentioned projects also faced a few challenges during implementation. The challenges are as follows:

- All projects require investment and project approval. But Coats Bangladesh stakeholders were very considerate in approving these projects considering the impact these projects will bring
- During implementation stage, some projects caused temporary production interruption but the timings were scheduled very nicely
- During implementation of any technical projects, rigorous training to relevant users needed to be provided.
- Projects are always time bound so careful planning of implementation need to be in place

6.2 Recommendations

- All projects need to be preplanned as they require time for implementation
- All companies should think about the future and environmental sustainability and come out with implementing various projects
- The stakeholders need to be properly informed regarding project impact on environment and business
- Proper training need to be in place after project implementation.
- The Bangladesh Government should encourage companies regarding sustainability goodwill and initiatives

6.3 Conclusion

This report has been generated to give an idea regarding the numerous projects that Coats Bangladesh has implemented keeping in consideration environmental sustainability. Creating a sustainable future is one of the main priority of Coats which has been reflected through the various projects initiated. Coats has been pioneer in the textile sector in terms of sustainability and are way ahead than any other similar industries and competitors. Coats Bangladesh focus on water, energy, effluent and materials is helping creating a better future. Having said that, no single organization can change the overall Environmental. It is high time that other organizations in the textile industry realize the importance of sustainability, make plans, implement and thus help the environmental to sustain. Taking Coats initiatives as an example and support from Government, such environmental sustainability can be achieved from other organizations also.

References

- [1] United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. <https://sdgs.un.org/2030agenda>
- [2] The World Bank. (2020). World Development Report 2020: Trading for Development in the Age of Global Value Chains. <https://openknowledge.worldbank.org/bitstream/handle/10986/32437/9781464814617.pdf>
- [3] World Health Organization (WHO). (2018). Ambient (outdoor) air quality and health. [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)
- [4] National Geographic Society. (n.d.). Plastic Pollution. Retrieved from <https://www.nationalgeographic.org/encyclopedia/plastic-pollution/>
- [5] International Renewable Energy Agency (IRENA). (2020). Renewable Power Generation Costs in 2020. <https://www.irena.org/publications/2021/Jun/Renewable-power-generation-costs-in-2020>
- [6] <https://www.coats.com>
- [7] <https://ficci.org.bd/page/publication/Smart-Economy-For-Smart-Bangladesh-WRLPJ#book/9> (Page 68-71)
- [8] <https://www.worldbank.org/en/news/feature/2021/12/23/meeting-bangladesh-s-plastic-challenge-through-a-multisectoral-approach>
- [9] Joshi, R., & Ahmed, S. (2019). Adoption of 3R practices for solid waste management: A review. Waste Management, 87, 188-197.
- [10] Mohan, S. V., & Mohanakrishna, G. (2017). Anaerobic treatment of industrial wastewaters: A comprehensive review. Journal of Environmental Chemical Engineering, 5(4), 3920-3949.