

TOSHIBA

Environment Report **2023**



Toshiba Information Equipment (Phils.), Inc.

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Editor's Postscript

The Environmental Report 2023 of Toshiba Information Equipment Philippines, Inc., presents the company's environmental management activities, objectives, targets and results for fiscal year 2021 and 2022.

The objective of this report is to present our statement of environmental philosophy, system, achievements and activity plan about reduction of environmental impact of products and in manufacturing, and environmental communication.

Company Overview

Toshiba Information Equipment (Phils.), Inc. (TIP) is one of the leading manufacturers of Hard Disk Drives (HDD) and Solid State Drives (SSD) in the country since 1996.

Along with its continuous commitment of providing high-valued products and quality services, TIP values the essence of Corporate Social Responsibility (CSR) engagement and responsible community involvement.



Company Profile

- ① **Company Name** : **Toshiba Information Equipment (Phils.) Inc.**
: TIP-LTI > **Laguna Techno Park Inc.**, Binan, Laguna
: TIP-CIP > **Carmelray Industrial Park**, Calamba, Laguna
- ② **President** : **Jun Ito**
- ③ **Established** : Founded 07/07/1995
Operation 10/01/1996
- ④ **Regular Employees** : **7,666** (as of Jul 2023)
- ⑤ **Japanese Expats** : **14**
- ⑥ **Capital Stock** : US\$ 186.7 Million
- ⑦ **Parent Company** : **Toshiba Electronic Devices & Storage Corporation**
- ⑧ **Main Products** : **HDD (Mobile & Enterprise)**
SSD (Datacenter & Enterprise)
- ⑨ **Shipping Destination (Sales-based)** : China (Hong Kong, Taiwan) 46.68%, USA 26.38%,
Europe 12.90%, Japan 3.90%, Others 10.13%
- ⑩ **CY2022 Actual Sales** : **US \$ 2.06 Billion**



Company Profile

	<p>LTI - Main Mobile Hard Disk Drives</p> <p>Land Area 60,036m²</p> <p>2.5 inch Mobile HDD</p>	<p>Gaming Console</p> <p>External HDD</p>
	<p>LTI - Annex Solid State Drives & Printed Circuit Board</p> <p>Land Area 21,000m²</p> <p>Enterprise SSD</p> <p>Up to 30TB of capacity</p>	<p>Mass Data Centers</p> <p>High Performance Server</p>
	<p>CIP Enterprise Hard Disk Drives</p> <p>Land Area 84,000 m²</p> <p>Enterprise HDD</p>	<p>Server System</p> <p>Mass Data Centers</p>



TIP has a long history and journey in environmental management. There are various factors that contribute to its success and challenges. Our focus areas include waste generation, chemical usage, water consumption, and energy consumption. TIP consistently takes actions to reduce its environmental impacts and conserve resources.

We have a long-term vision of a decarbonized society, aligned with the direction of the entire Toshiba group by implementing measures for carbon dioxide emissions.

We ensure that our products are produced with consideration for their environmental impact throughout their life cycle assessment wherein circular economy approach is applied as our measure for sustainability and to fight climate change. Minimization and efficient use of materials is a standard practice in our operations, and all members of the organization are involved in this effort.

Compliance is important for us. We actively communicate with various government bodies and stakeholders to understand and align our business practices with local and international regulations.

Despite the challenges, we remain committed to environmental protection and strive to achieve our goals. The cooperation of all our members and business partners is crucial in achieving these objectives.

A handwritten signature in black ink, appearing to read 'Jun Ito', written in a cursive style.

Jun Ito

President, Environment Protection Officer
Toshiba Information Equipment (Phils.), Inc.



Commitment to Earth

TIP commits environmental protection in all its business activities from a life cycle perspective to preserve the earth for future generations.

Commitment to Compliance

TIP commits compliance to all applicable environmental laws, rules and regulations.

Commitment for Improvement

TIP's environmental management system has specific rules and objectives to ensure continual improvement on processes, procedures and products.

Responsibility of Employees & Other Stakeholders

All employees and other persons working for and on behalf of TIP shall practice corporate activities that integrate management and the environment for the resolution of social issues towards the realization of a sustainable society.

VISION

Toshiba Electronic Devices & Storage Corporation Group aims to create value for tomorrow and coexist with the Earth, consistent with Toshiba Group philosophy of being "Committed to People, Committed to the Future", We will contribute to the development of a sustainable society and better future through environmental management practices aimed at being de-carbonized, recycling-based, and harmonious with nature.

TIP Supplemental Environment and Energy Management Policy

1Compliance and Sustainability

TIP complies with all applicable laws, regulations and requirements on environmental preservation; code of conduct in the industries which Toshiba has agreed as well as all regulations and standards which relate to its environmental aspects.

To further enhance its environmental performance, TIP shall continuously improve its system through internal audits and reviews; apply environmental management effectively; and provide trainings to employees including those that have the potential to cause significant environmental impacts.

TIP commits to a responsible energy management to manufacture products using energy efficient processes. TIP shall make effort to contribute to the mitigation of climate change and the conservation of natural resources through the application of energy efficient technologies and practices.

2Execution

TIP strives to reduce the environmental impacts of its business activities on biodiversity, hence promotes greening of the supply chain from development and design, procurement until manufacturing and sales. TIP also commits to promote energy saving and resource saving programs, reduction of environmental impacts, pollution prevention and execute proactive environmental measures including the following:

- a) Minimize carbon dioxide emission and other green house gases to mitigate climate change.
- b) Reduce energy and water consumption.
- c) Reduce waste generation and efficiently use resources following the waste management principle, 4Rs (reduce, reuse, recycle and recover) in order to support the circular economy.
- d) Ensure compliance to product-content chemical substance regulations by promoting acquisition of parts and materials that have low environmental impacts.
- e) Properly manage and reduce the use of chemicals.
- f) Prevent pollution of air, water and soil.
- g) Ensure compliance to water discharge standards to protect water bodies.
- h) Conserve, protect and promote biodiversity.
- i) Facilitate mutual understanding with stakeholders by continuous communication.
- j) Enhance environmental awareness.

RESPONSIBILITY OF ALL EMPLOYEES AND OTHER STAKEHOLDERS

TIP considers environmental protection and conservation to be one of management's primary responsibilities. Moreover, to contribute to society as good corporate citizen, TIP strives to enhance the awareness of all its employees or those working on its behalf regarding its responsibility to conserve and protect the environment and requires that they make practical contribution through their work. TIP constantly communicates its environmental activities and strongly collaborates to encourage participation of employees, community members and other stake holders.


JUN ITO
TIP President
Environmental Protection Officer

Revision date: January 30, 2023

Environmental Future Vision 2050

“Committed to People, Committed to the Future.” is the long standing Basic Commitment of the Toshiba Group, a statement that expresses our enduring credo to contribute to the development of society through our business.

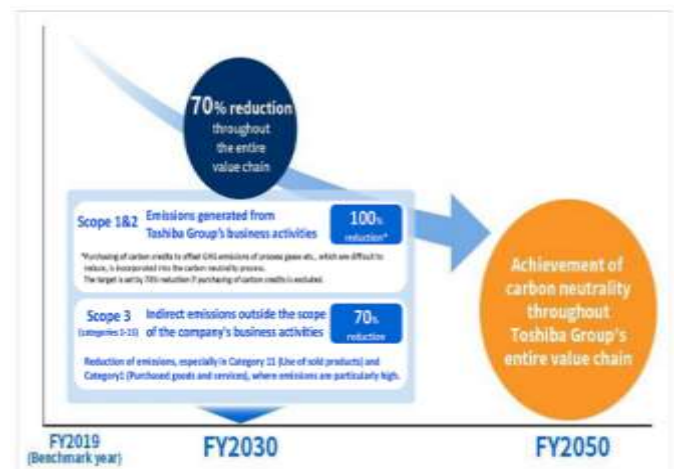


In recent years, climate change, the depletion of energy and resources, and various other environmental issues have intensified, to the point where they threaten the safe, secure lives of future generations. With regard to climate change in particular, given the impacts of floods, droughts, and enormous typhoons in many parts of the world, the 2015 adoption of the Paris Agreement¹ has accelerated the movement toward carbon neutrality in each country. In the face of these circumstances, companies must recognize the importance of climate change from a long-term perspective and proactively respond in order to achieve carbon neutrality.

Under “**response to climate change**”, we aim to achieve carbon neutrality throughout Toshiba Group's entire value chain by FY2050 to contribute to the goal of the Paris Agreement. As a milestone, we aim to reduce GHG emissions by 70% by FY2030 compared to the FY2019 level.

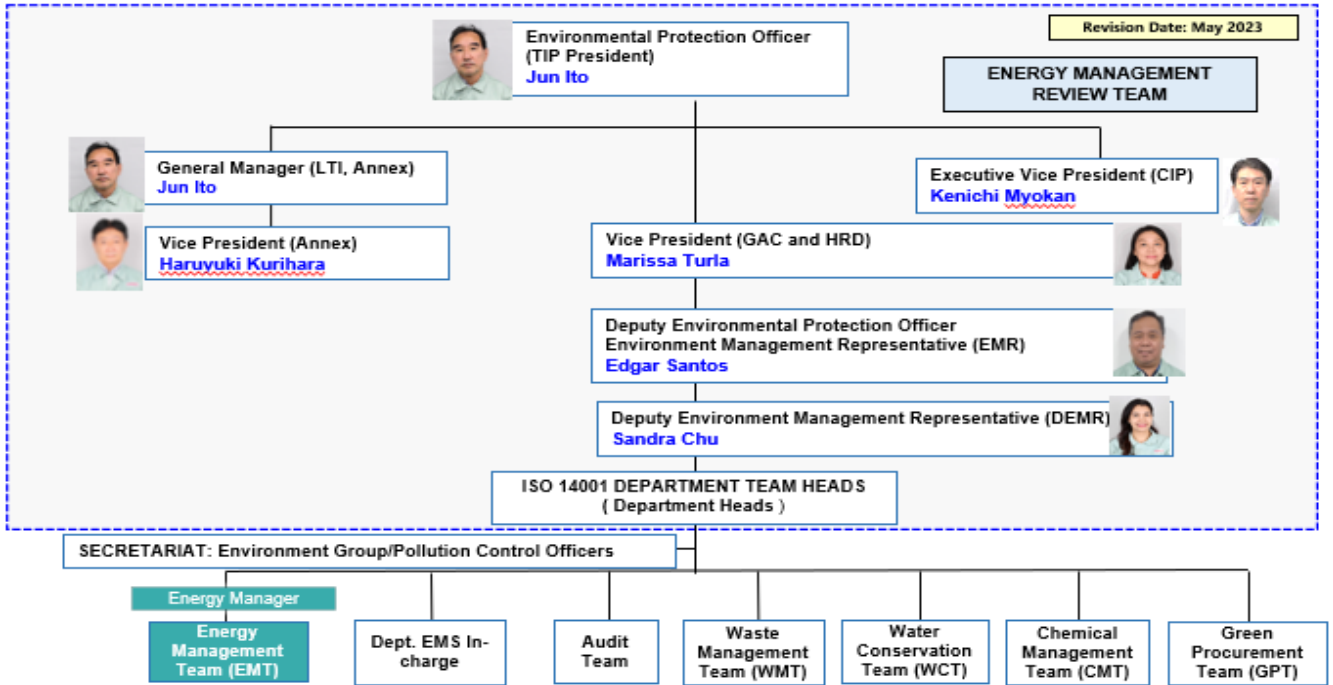
Under “**response to the circular economy**”, we will promote the efficient use of resources in both business activities and products and services. At the same time, we will actively collaborate with relevant parties, such as industry organizations, government agencies, and other companies, in order to adapt our business models to the circular economy.

Under “**consideration of ecosystems**”, we will contribute to the creation of a society where humans live in harmony with nature and continue to enjoy the blessings of ecosystems by promoting compliance with policies and regulations on chemical substance management in countries around the world, proper management of water resources, and activities to conserve biodiversity on and off the premises of Toshiba sites.





Environment Management Table of Organization



Revision Date: May 2023

ALL TIP EMPLOYEES (Direct, Indirect, Contractual) AND RELATED PERSONNEL (Suppliers, Service Providers, Contractors)



ISO 14001:2015 Certification



- Toshiba Information Equipment (Phils.), Inc. is an ISO 14001:2015 certified company.
- TIP has renewed its certification on November 19, 2018.
- The certificate is valid for all three sites namely LTI, ANNEX and CIP.
- For over two decades, TIP's Environmental Management System continues to promote and implement programs to combat climate change.



Environmental Aspects

ENVIRONMENTAL REQUIREMENTS

TIP Operations

- Presidential Decree 1586 "Environmental Impact Statement System"
- Republic Act 7916 "The Special Economic Zone Act of 1995"
- Department of Environment and Natural Resources Administrative Order 2014-02 "Revised Guidelines for Pollution Control Officers Accreditation"

Energy Use

- Republic Act 9136 "Electric Power Industry Reform Act of 2001"

INPUT

- ✓ Raw Materials
- ✓ Chemicals
- ✓ Water
- ✓ Energy/Fuel

ENVIRONMENTAL REQUIREMENTS

Chemical Use

- Republic Act 6969 "Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990"
- Republic Act 9165 "Comprehensive Dangerous Drugs Act of 2002"

Raw Materials

- Waste Electronic and Electrical Equipment Directive
- Restriction on Hazardous Substances
- Conflict Minerals
- Customer Environmental Requirements



Inside the Power Plant



GENERATOR SETS



COOLING SYSTEM



FUEL STORAGE



Chemical Storage



Scrap Area

PROCESS MANUFACTURING SUPPORT



INSIDE THE WATER TREATMENT PLANT



WASTEWATER TANK



WATER TREATMENT PROCESSING



WASTEWATER TREATMENT TANK



ENVIRONMENTAL REQUIREMENTS

Product

- Waste Electronic and Electrical Equipment Directive
- Restriction on Hazardous Substances
- Customer Environmental Requirements

Solid Waste

- Republic Act 9003 "Ecological Solid Waste Management Act of 2000"

Wastewater

- Republic Act 9275 "Philippine Clean Water Act of 2004"
- General Effluent Standards of 2016

Hazardous Waste

- Republic Act 6969 "Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990"

Air Emission

- Republic Act 8749 "Philippine Clean Air Act of 1999"

OUTPUT

- ✓ HDD and SSD
- ✓ Solid Waste
- ✓ Waste Water Discharge
- ✓ Chemical Waste
- ✓ Air Emission

ENVIRONMENTAL REQUIREMENTS

Product

- 100% Compliance to Environmental Legal and Other Requirements
- Customer Requirements

Solid Waste

- Increase recyclable waste ratio (Zero waste to landfill)

Wastewater

- Reuse wastewater from reverse osmosis brine
- Compliance to discharge quality

Hazardous Waste

- 100% treatment of generated waste
- Control of purchase and use of hazardous chemicals

Air Emission

- Compliance to permit to operate requirements
- Installation of air pollution control devices (DeNox Reactor)

The Seventh Environmental Action Plan

We at Toshiba Group have formulated the Environmental Action Plan to achieve our long-term environmental vision. In this plan, we specify detailed areas of activity as well as set and manage targets. Based on Toshiba Group's Environmental Future Vision 2050, we have now formulated the Seventh Environmental Action Plan with an activity period covering FY2021 to FY2023. There are 19 targets set in three activity areas, "Response to climate change", "Response to the circular economy" and "Consideration of ecosystems", with the first two being the priority items, and also "Enhancement of the basis of environmental management", which supports the three activity areas. We will further develop and refine our activities in line with these targets to achieve our long-term vision and to help resolve various social issues, starting with climate change.

Activity area	Activity content	FY2021 ¹			FY2022 ¹			FY2023 ¹	
		Target	Result	Evaluation	Target	Result	Evaluation	Target	
Business activities	Reduction of total GHG emissions* ²	1.10 million t-CO ₂	1.03 million t-CO ₂	Achieved	1.02 million t-CO ₂	0.77 million t-CO ₂	Achieved	0.98 million t-CO ₂	
	Improvement of total energy-derived CO ₂ emissions per unit	1% improvement compared to FY2020	96%	Achieved	1% improvement compared to FY2021	87%	Achieved	1% improvement compared to FY2022	
Products & services	Products and services associated with power supply	Reduction of GHG emissions during power supply (Base year: FY2019) ³	9.1%	58.7%	Achieved	11.4% reduction	70.4% reduction	Achieved	13.6% reduction
		Contribution to GHG reduction through introduction of renewable energy (cumulative total) ⁴	13 million t-CO ₂	8.38 million t-CO ₂	Not achieved	28 million t-CO ₂	50 million t-CO ₂	Achieved	43 million t-CO ₂

•Basic-unit goals for energy-derived CO₂ emissions, waste, water, and chemical substances: activities are assessed using indicators such as nominal output, the number of products manufactured, the number of persons and total floor area.

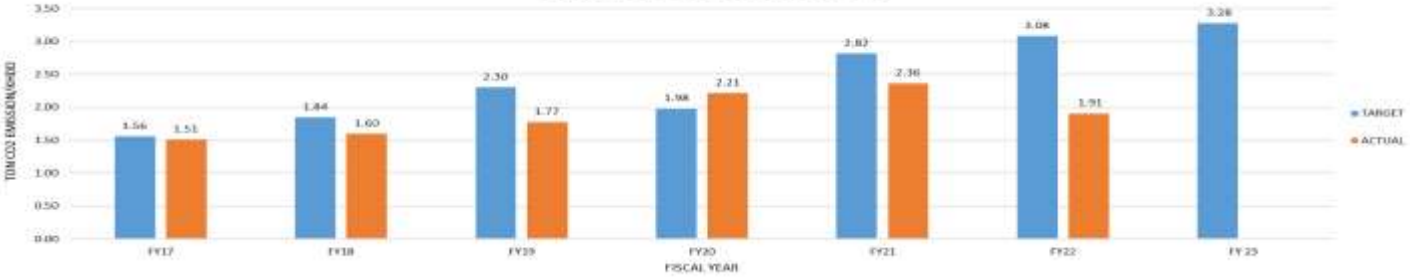
•“Five activity themes”: (1) Building of ecosystem networks, (2) Conservation of rare species and promotion of ex situ conservation, (3) Response to marine plastics issues, (4) Response to climate change (mitigation, adaptation), (5) Conservation of water



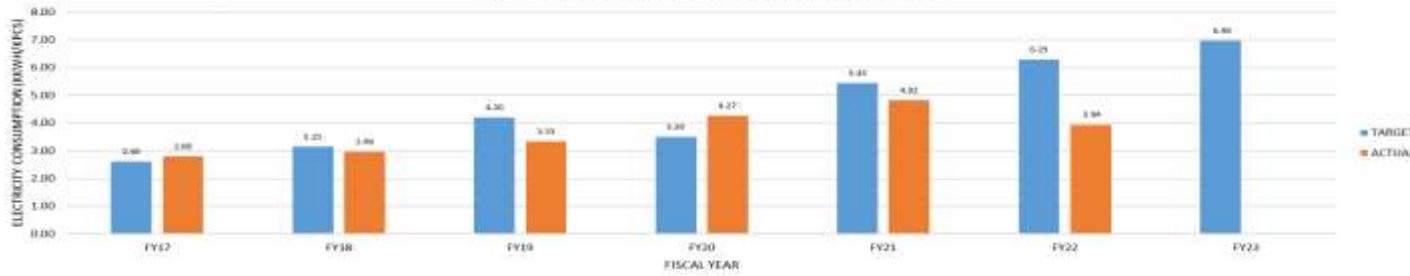
Environmental Targets and Objectives

Energy/ CO2

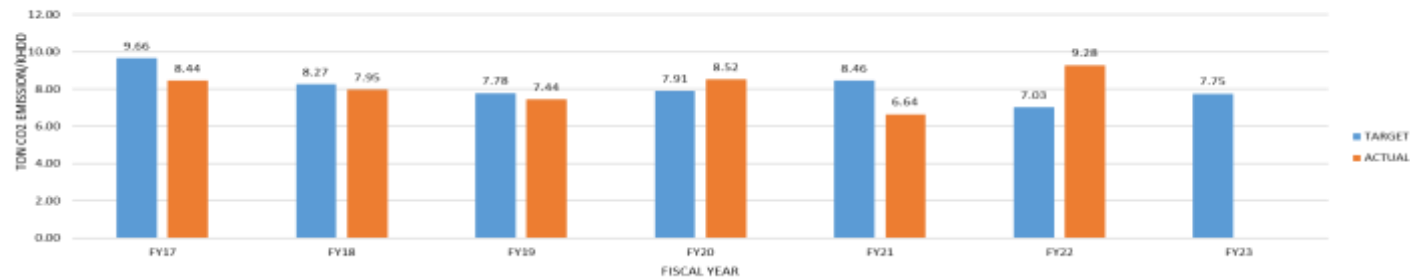
LTI TON CO2 EMISSION



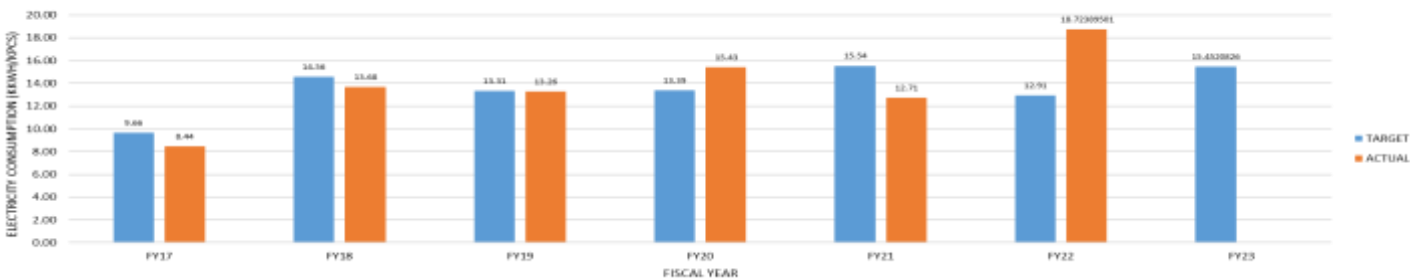
LTI ELECTRICITY CONSUMPTION



CIP TON CO2 EMISSION



CIP ELECTRICITY CONSUMPTION



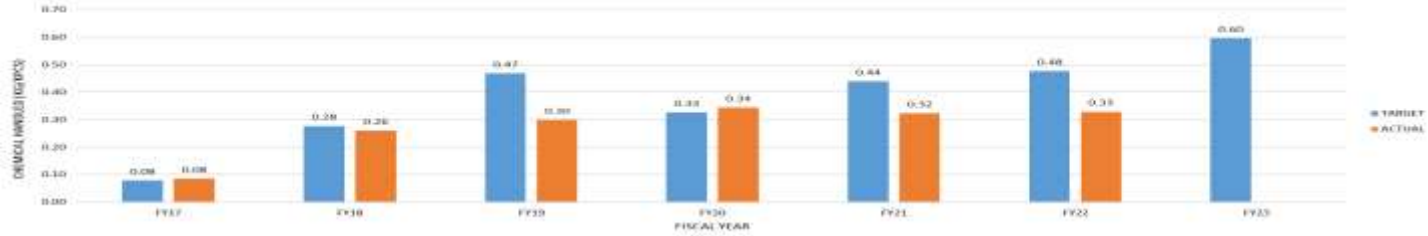
As part of our commitment to Earth, we have the following Environmental Targets for Energy/CO2, Water, Chemical and Waste. To help mitigate climate change by reducing carbon emission. TIP has specific targets to reduce energy consumption. Energy originated Carbon Dioxide (CO2) emissions processes must be reduced to attain targets. Reduction actions/ projects are monitored and reported during meeting with the Environment Group in charge. Results obtained from FY 2022 was achieved from the target. Every semester, Management Review meeting and Top Management (Monthly) is being conducted to monitor the activities where the energy performance is presented to the president and other top management.



Environmental Targets and Objectives

Energy/ CO2

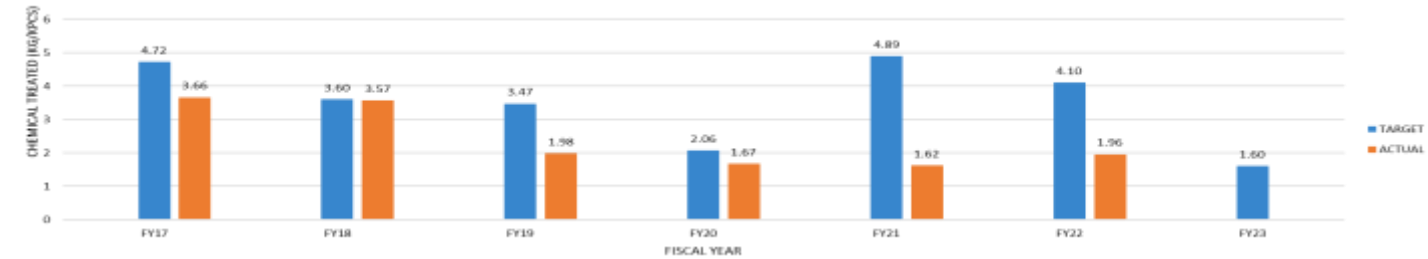
LTI CHEMICAL HANDLED



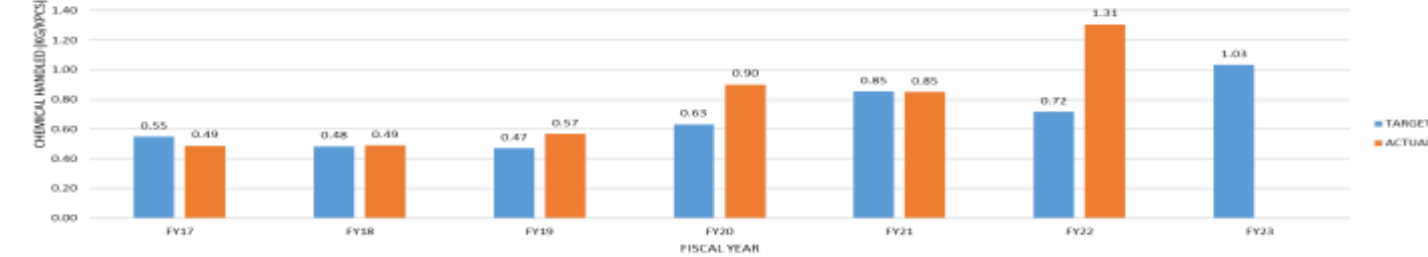
LTI CHEMICAL TREATED



CIP CHEMICAL TREATED



CIP CHEMICAL HANDLED



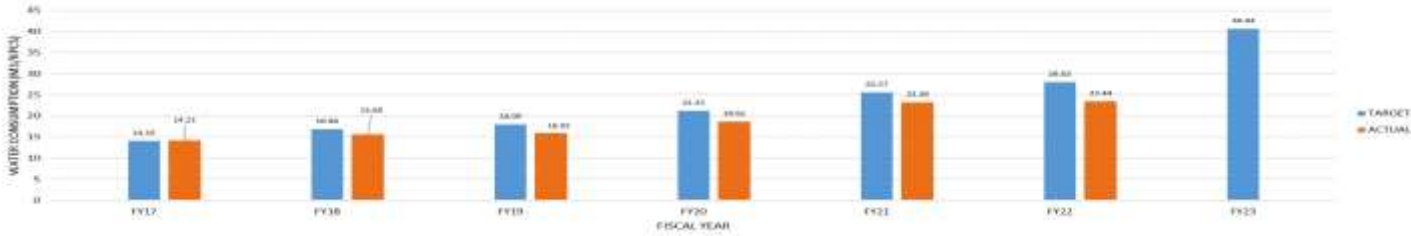
As part of our commitment to Earth, we have the following Environmental Targets for Energy/CO2, Water, Chemical and Waste. TIP is dedicated to continuously cut down on chemical emissions, thus, development and implementation of chemical reduction programs had been implemented in all key areas. For FY 2022, LTI targets were achieved but for CIP there was a 45% increase in chemical handled because IPA has the highest consumption and the main purpose of the chemical is for disinfectant and cleaning. Another important pillar of TIP's Chemical Management is the emergency preparedness and response. All departments were subjected to perform a chemical spill drill in presence of Environment, Safety and Management representatives. The aim of the activity is to assess the preparedness of the chemical handlers in case of spill occurrence. Training is conducted also for our Chemical Team members. Every semester, Management Review meeting and Top Management (Monthly) is being conducted to monitor the activities where the energy performance is presented to the president and other top management.



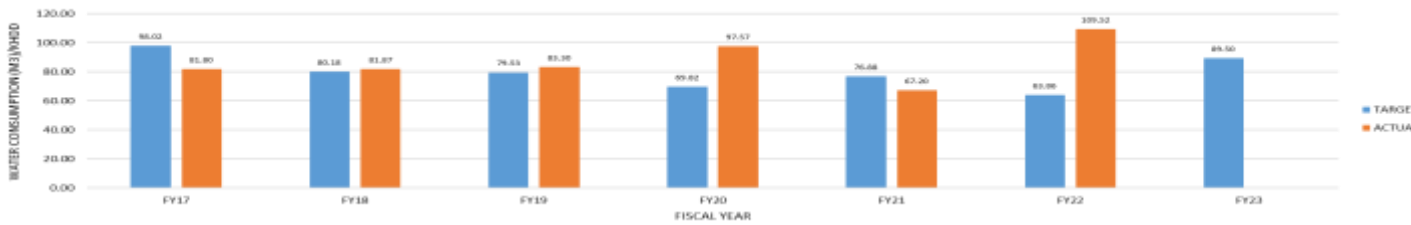
Environmental Targets and Objectives

LTI Site

LTI WATER CONSUMPTION



CIP WATER CONSUMPTION



As part of our commitment to Earth, we have the following Environmental Targets for Energy/CO₂, Water, Chemical and Waste. TIP has initiated several activities that supports water conservation. For FY 2022, LTI targets were achieved but for CIP there is a 40% increase in the normalized target because the production output target significantly decreased. Continuous implementation of wastewater reduction programs e.g. Maximization of resin performance in WTP, Reuse of wastewater for for Turbo Chiller Cooling System. Continuous education is disseminated to employees in order to sustain the conservation programs. Every semester, Management Review meeting and Top Management (Monthly) is being conducted to monitor the activities where the energy performance is presented to the president and other top management.

LTI WASTE GENERATION



CIP WASTE GENERATION



As part of our commitment to Earth, we have the following Environmental Targets for Energy/CO₂, Water, Chemical and Waste. TIP has initiated several activities that supports water conservation. One of the major problems in the world today is the generation and disposal of waste. Waste management has always been on of the major focus of Environment Management in TIP. For FY 2022, LTI and CIP Targets were achieved. TIP follows the waste management hierarchy of reduce, reuse, recycle, recover and dispose, of which the latter is the least option. TIP has set its target at 0.5% recyclable ratio. In order to achieve this target, concrete programs had been laid out and implemented. Every semester, Management Review meeting and Top Management (Monthly) is being conducted to monitor the activities where the energy performance is presented to the president and other top management.

Environmental Programs

ENERGY CONSERVATION

AirCon/ AHU Setting Control



Use of LED Lights



Replacement of halogen and halide lighting to LED Type

Turning off of Electrical Devices



Usage Control



Monitor and Turn-off unused HRT, TCT and SCR Racks

Turbo Chiller Operation



Turbo Chiller Operation and control to Increase Chilled Water Equipment Efficiency

Improvement of Fuel Oil Consumption

Generator Engine



Nozzle ring P/N: 49129-12000

Building Envelop



Installation of pre-cooling coil for discharge water heat recovery

Use of Blinds and Insulations



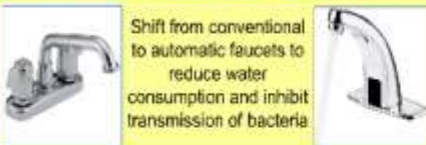
Minimize heat transfer, keep area cooler



Use of Insulation in the workshop areas

WATER CONSERVATION

Shift to Automatic Faucets



Shift from conventional to automatic faucets to reduce water consumption and inhibit transmission of bacteria

Early Detection of Leaks



Water Conservation Awareness Campaign



ECOSaving

CHEMICAL REDUCTION

Sample Chemical Reduction Programs

- ✓ Monitoring and strict control on the use of HCl, IPA, toners and other chemically controlled chemicals



Chemical Spill Drill and Chemical Handling Training



CMT Certification Training



Chemical Evaluation



RESOURCE EFFICIENCY/ WASTE REDUCTION

Reuse of Company Supplies



Proper Segregation and Labeling of Waste



ECOWaste
Department Waste Management Center

ECOWaste Bins. Please do not put any other waste in the bins. Please segregate waste in the bins.



Awareness Campaign



Chemical Management

TIP adheres to various international and local laws and regulations governing the use of regulated, restricted and banned chemical substances within the company. To strictly monitor its compliance and to ensure that the company uses environment-friendly products in its manufacture of storage devices, the following programs/activities are deployed under its Chemical Management System:

CHEMICAL EVALUATION



All chemicals in TIP are strictly evaluated prior to their purchase, importation and use in the company. An online chemical database is devised to evaluate compliance to environment regulations and safety guidelines. The Chemical Masterlist and Chemical Information Summary (CIS) are automatically generated from its site.

CMT TRAINING



CMT Training is semiannually conducted for CMT Trainers and CMT Members. Inclusive in this training is a thorough discussion of the following: Chemical Management, SDS, Chemical Database, Chemical Purchase Requisition and Storage Requirements.

CHEMICAL STORAGE



STORAGE REQS:

- Clean & Dust Free
- Good Illumination
- Well-ventilated
- With Spill Pan
- With Rack Capacity
- With SDS
- With CIS

TIP has three (3) Central Chemical Storages and has a number of chemical storage per department which should comply to the Chemical Management Regulations and safety guidelines.

CONTROL AND MONITORING



STRICTLY MONITORED CHEMICALS:

- Ethanol, IPA, Sodium Hydroxide, Acetone, Methanol Sulfuric Acid, Ammonia, Toluene Hydrochloric Acid

Monthly chemical consumption are reported to Top Management and to TDSC. Two types of chemicals are normally reported namely chemical discharge and chemical used for treatment.

PPE AND PROPER HANDLING



TOSHIBA PPE INSTRUCTION GUIDE AND INVENTORY					
AREA: CHEMICAL STORAGE	TYPE	EQUIPMENT	REQUIREMENTS	FUNCTION	ITEM TYPE
HAZARDOUS	HEAD	Hard Hat	Must be used when working in areas where there is a risk of injury from falling objects or other hazards.	To protect the head from falling objects or other hazards.	Safety Helmet
HAZARDOUS	EYES	Safety Goggles	Must be worn when working in areas where there is a risk of eye injury from splashes or other hazards.	To protect the eyes from splashes or other hazards.	Safety Goggles
HAZARDOUS	HANDS	Safety Gloves	Must be worn when working in areas where there is a risk of hand injury from splashes or other hazards.	To protect the hands from splashes or other hazards.	Safety Gloves
HAZARDOUS	RESPIRATORY	Respirator	Must be worn when working in areas where there is a risk of respiratory injury from splashes or other hazards.	To protect the respiratory system from splashes or other hazards.	Respirator
HAZARDOUS	FOOTWEAR	Safety Shoes	Must be worn when working in areas where there is a risk of foot injury from splashes or other hazards.	To protect the feet from splashes or other hazards.	Safety Shoes

PPE Cabinets should contain the minimum personal protective equipment required for transferring chemicals, using of chemicals and chemical spill containment.

CHEMICAL SPILL DRILL



TIP annually conducts series of chemical spill drills for departments with chemicals as significant aspect. Spill drills are normally evaluated by Environment and Safety Group. The drill plan and drill reports are communicated via issuance of memorandum.

Green Procurement

TIP ensures that all indirect, direct, sub materials, palletizing and other materials used and produced in TIP are environmentally-compliant to its Mother company's Green Procurement Guidelines and international standards on hazardous substances.

ROHS

Restricted Substance	MCV
1. Lead (Pb)	< 1000 ppm
2. Mercury (Hg)	< 100 ppm
3. Cadmium (Cd)	< 100 ppm
4. Hexavalent Chromium (Cr VI)	< 1000 ppm
5. Polybrominated Biphenyls (PBB)	< 1000 ppm
6. Polybrominated Diphenyl Ethers (PBDE)	< 1000 ppm
7. Bis(2-Ethylhexyl) phthalate (DEHP)	< 1000 ppm
8. Benzyl butyl phthalate (BBP)	< 1000 ppm
9. Dibutyl phthalate (DBP)	< 1000 ppm
10. Diisobutyl phthalate (DIBP)	< 1000 ppm



WEEE



RoHS stands for Restriction of Hazardous Substances, and impacts the entire electronics industry and many electrical products as well.

1. Directive 2002/95/EC (RoHS 1)
 - Originated in the European Union in 2002
 - Restricts the use of six hazardous materials found in electrical and electronic products
 - Effective since July 1, 2006
2. Directive 2011/65/EU (RoHS-Recast/RoHS 2)
 - Published in 2011 by the EU
 - Include a CE-marking directive
 - Added Categories 8 and 9, and has additional compliance recordkeeping requirements.
3. Directive 2015/863 (RoHS 3)
 - Added four additional restricted substances (phthalates) to the list of six.
 - Deadline is 22 July 2019.

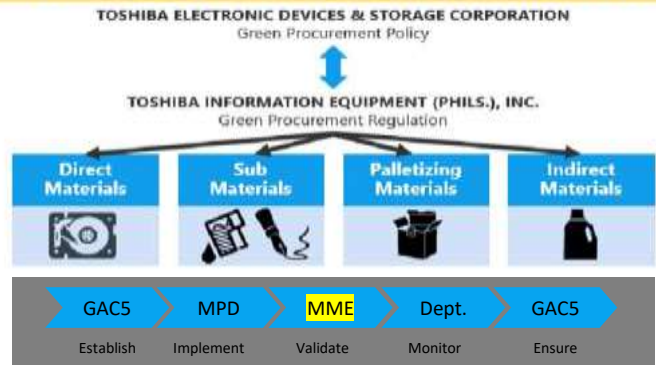
Source: <https://www.rohsguide.com/>

Related to RoHS is WEEE, which stands for Waste Electrical and Electronic Equipment.

Directive 2002/96/EC (WEEE) mandates the treatment recovery and recycling of electric and electronic equipment (90% ends up in landfills). All applicable products in the EU market must pass WEEE Compliance and carry the "Wheellie Bin" sticker.

Source: <https://www.rohsguide.com/>

TIP Green Procurement Framework



GREEN PROCUREMENT & ROHS LEARNING SESSION FOR FORWARDERS, SUPPLIERS AND SERVICE PROVIDERS



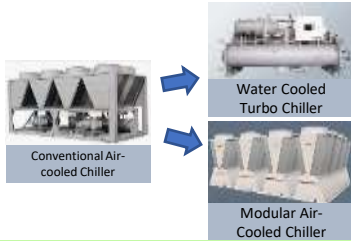
Series of Eco Forums focused on TIP's Environmental management System, Green Procurement Guidelines and RoHS compliance are annually conducted for suppliers and service providers aimed at strengthening their knowledge and awareness on these environmental aspects.

Energy Management

TIP is conducting actions to mitigate climate change effects by reducing GHG emissions through responsible energy management. We continuously implement programs that contribute to reducing energy consumption and CO2 emissions by improving power plant and manufacturing operations and utilizing products, machines and equipment that have large energy-saving effects.

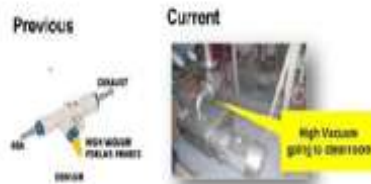
Energy Consumption Reduction Initiatives

Application of High Efficiency Chiller



Chillers are machine used to produce chilled water which is circulated around buildings to deliver air conditioning. To achieve optimum conditions of HVAC usage TIP transitioned to Modular type Air-cooled chillers.

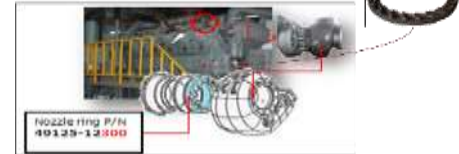
CDA Leak Elimination



- Installation of centralized vacuum piping system (high vacuum) for LMS monitoring.
- Removal of installed CONVUM (conventional vacuum). CONVUM has high consumption of electricity.

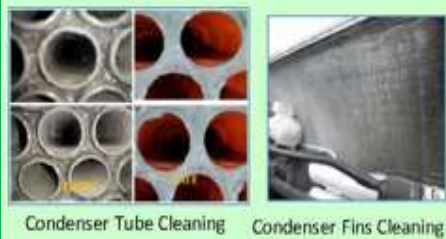
Reduction of Engine Fuel Oil Consumption

Generator Engine



- Adjustment of Fuel Injection Timing - burning time of fuel will be longer and it will be in good combustion state.
- Replacement of Turbocharger Nozzle Ring – boost pressure will increase, more air to fuel ratio.

Chiller Efficiency Improvement



- Chemical cleaning of Turbo Chiller's condenser tubes to reduce condenser approach from >6 degree C to <2 degree C and to improve the heat exchange.
- Monthly cleaning of condenser fins of conventional chiller for better chiller efficiency and COP

Use of LED Lights



TIP replaces around Eight thousand (8000) Fluorescent Light Fixtures with LED Type. In terms of energy consumption, Fluorescent Light consumes 0.05 kilowatts per day while LED consumes 0.018 kilowatts per day. TIP then has a total of 0.032 kilowatts saving per day upon shifting to LED use.

Turning Off Of Electrical Devices



TIP employees practice turning off of electrical devices when not in use or during break time. Dept. EMS-In-charge placed Energy Reminder tags/notice to electrical devices to remind employees to conduct energy saving practices in the area.

Usage Control (Load Management)



Monitoring and turning-off of unused Testing Machine Racks (Temperature Cycle Test, Screening, and Heat Run Test). Some Light Emitting Diode (LED) signals were removed to lessen energy consumption of the machines.

Use of Blinds



TIP Utilizes window blinds to minimize heat transfer and to keep area cooler. Closing window blinds at the right times can reduce the energy used in the area. Closing the blinds adds some insulation to the windows, reducing heat gain.

Use of Insulation



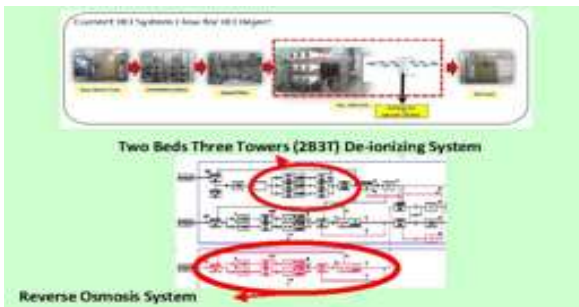
TIP installed insulation in the workshop areas to minimize heat transfer and keep the area on the required temperature range for the machines, products, and personnel.

Water Management

In response to a global increase in concerns regarding water problems, TIP is promoting sustainable water resource management. Each of our production sites has incorporated reducing the amount of water received into its annual plan in order to develop specific strategies and conduct follow-up surveys on an ongoing basis. We are promoting wide-ranging initiatives including recycling the wastewater generated.

Water Consumption Reduction Initiatives

Installation of Reverse Osmosis System



In recent years, TIP experienced higher demand for water use due to higher production output. To meet this demand for water, TIP installed a new Water Treatment System called Reverse Osmosis System. A Reverse Osmosis (RO) System uses water pressure to force water molecules through a very fine membrane leaving the contaminants behind. The advantage of this system is that there is no chemical used for treating raw water which contributes to chemical consumption reduction. Reverse osmosis eliminates salt and other inorganic particles present in the water.

Shift to Automatic Faucets



Conventional Faucet



Automatic Faucet

Shift from conventional faucets to automatic faucets to reduce water consumption and inhibit transmission of bacteria. Letting the bathroom faucet run for five minutes consumes nearly as much energy as running a 60 watt light bulb for 14 hours. The less water you use, the less energy you use. Also, swapping out older, water-hungry fixtures for newer, water-friendly ones can save hundreds of gallons of water per year.

Early Detection of Leaks



Water Leak upon detection

Fixing of Water Leak

TIP vigorously monitors and detect water leaks in the building sites. Upon detection of leaks by housekeeping personnel or TIP employee it is immediately reported to facilities personnel so as to address the concern. Then Facilities Team will ensure that the leak is properly fixed and guaranteed that the leak will not happen on the near future.

Water Conservation Awareness Campaign



Water conservation is given high priority by TIP and with this TIP continuously promote water conservation awareness through different activities such as releasing of water conservation information through BEAR (Basic Environmental Awareness Reminders), and Ecosavings contest which encourages TIP employees to reduce water consumption at home.

Resource Efficiency

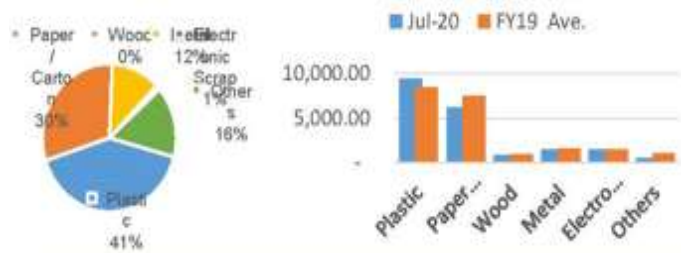
The waste management system of TIP is approached with a Life cycle perspective. Waste reduction programs are continuously explored and implemented, with the goal of minimizing TIP's contribution to the load on the environment. For the waste TIP unavoidably generates, it is ensured that proper handling and disposal practices are followed and complied to.

WASTE MANAGEMENT TEAM



TIP has an established team that spearheads programs for waste management. Each department has its own representative, in-charge of monitoring their generation. Only certified members who undergone training are authorized to handle waste to ensure that proper practices are followed in the company.

MONITORING AND ANALYSIS



Department waste generation and weights hauling data are collected and analyzed monthly. Broken down to different categories, they are utilized to understand the nature of waste generation. From there, programs are created to further reduce waste generation.

ZERO-LANDFILL

The residual or non-recyclable (NR) waste of TIP is ensured to be not directly disposed to landfill. NRs are used as fuel-material for cement production plants. Only 0.05% of TIP's waste is landfilled for FY 2022.

PRECIOUS METAL RECOVERY

Defective products from manufacturing, or electronic scrap, contains precious metals. These are sold to companies that have treatment facilities outside the country, where they extract these metals re-processed.

RETURN TO VENDOR (RTV)



TIP explores opportunities where materials are returned to the supplier for re-use instead of disposal. Some items that are RTVed are toner cartridges, used cooking oil, and canisters from fire extinguishers.

COMPLIANT HAULERS

TIP's waste haulers and service providers undergo an accreditation process to ensure 100% compliance to all laws and regulations. Regular audits are also conducted to ensure alignment with TIP's life-cycle perspective.

SOURCE SEGREGATION

With business units having their own waste storage areas, they conduct segregation from the source. As it is endorsed to TIP's Central Scrap Area, waste bins are designated for each waste type prior to hauling and disposal.

AWARENESS CAMPAIGNS



Several initiatives to raise awareness are deployed by TIP to its employees in the form of trainings, learning sessions, and incentive-based contests.

Education, Training and Awareness

TIP values the essence of education in enhancing its employees' competence and in the realization of its visions for greening TIP, its partner organizations and the community as a whole. Below are some of its programs associated with strengthening its peoples' environmental consciousness:

EMS REFRESHER TRAINING



EMS Training is semiannually conducted in TIP. Material is usually sent by TDSC which primarily aims to strengthen its employees' awareness on socially relevant environmental issues. Moreover, it hopes to formally communicate Toshiba Groups' environmental initiatives in protecting and preserving the beauty of nature and its biodiversity. The training is usually offered to all expats, indirect and direct employees and all in-house service providers.

ACCREDITATION TRAINING



ISO 14001:2015 Internal Auditors' Training is an annual training organized by TIP to equip potential EMS Auditors the essential knowledge associated with the standard and enhance their auditing skills. Also, TIP ensures that members of the Environment Group have attended trainings and are accredited Pollution Control Officers and Managing Head.

ENVIRONMENT BOARDS



Environment boards are regularly updated and posted in strategic locations in TIP to strengthen its employees' understanding on Environment Policy, Toshiba Group's Vision, EMS Table of Organization, EMS OTP, Environment Programs and TIP's notable environment CSR initiatives.

B.E.A.R



B.E.A.R: Basic Environmental Awareness Reminders is a weekly environment information notification to all TIP employees which aims to intensify its people's environmental consciousness.

ECOFORUM FOR SUPPLIERS AND PARTNER ORGANIZATIONS



Ecoforum is a technical learning session organized by TIP for suppliers, Pollution Control Officers (PCO), partner organizations (e.g. AOSHEOLI) and TIP employees to harness their awareness and understanding on EMS, Environment Legal Updates and Biodiversity. TIP also invites speakers from local regulatory bodies for a more comprehensive discussion on environment-related legal matters.

 Biodiversity Programs



Biodiversity is the **variety of life that can be found on Earth**; may it be plants, animals, or microorganisms. It is the shortened form of the words “*biological*” and “*diversity*”.

To absorb the importance of biodiversity, we need to understand the concept of **ecosystem services**.

Ecosystem Services

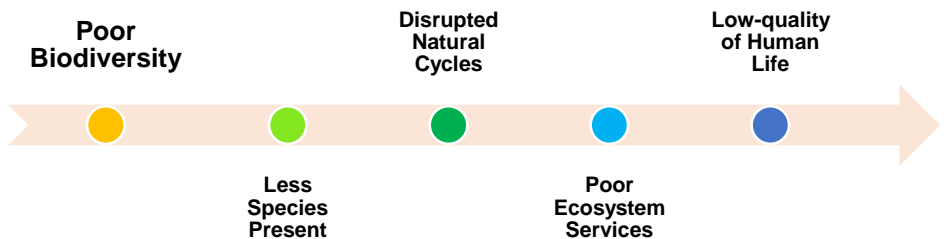
SUPPORTING
 Nutrient cycling
 Soil formation
 Habitat provision
 Pollination

REGULATING
 Carbon Sequestration
 Waste Decomposition
 Water and Air purification
 Species over-abundance

PROVISIONING
 Food Supply
 Raw Materials
 Medicine Resources
 Energy
 Water Purity

CULTURAL
 Recreation
 Science and Education

Effect of Biodiversity



TIP

TOSHIBA

TIP has implemented **office/factory-based biodiversity conservation** initiatives following the Toshiba Group **Environmental Action Plan** and **AICHI Biodiversity Targets**.

Biodiversity Programs

BIODIVERSITY PARK ENHANCEMENT



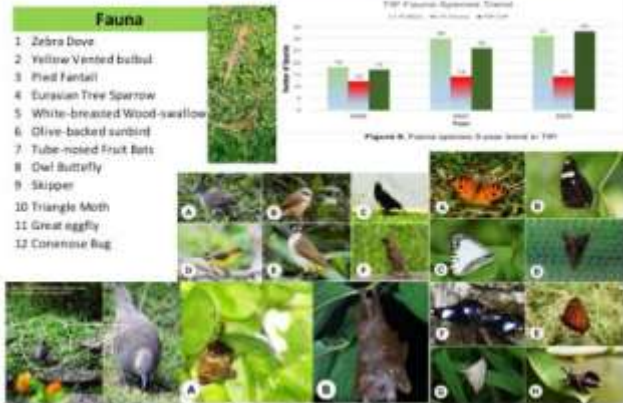
BUTTERFLY HOUSE



SPECIES INVENTORY

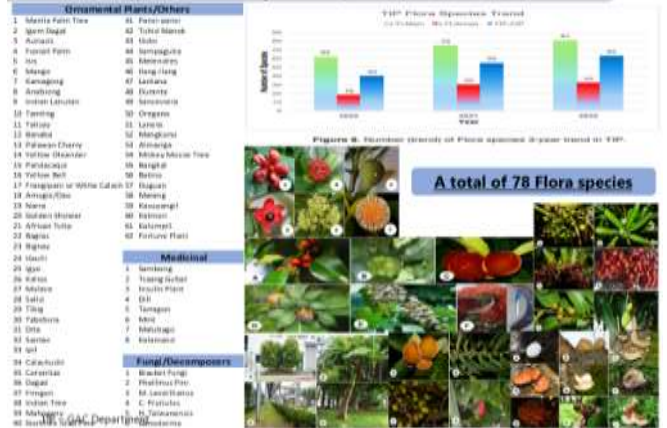
FAUNA: A total of 12 species observed in TIP

Inventory of Animal Species (Fauna) in TIP



FLORA: A total of 78 species observed in TIP

Inventory of Plant Species (Flora) in TIP



BIODIVERSITY ASSESSMENT

Annual assessment with Expert

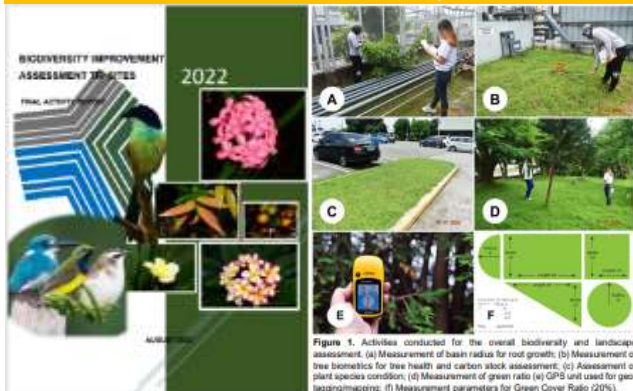


Figure 1. Activities conducted for the overall biodiversity and landscape assessment. (a) Measurement of trunk diameter for root growth; (b) Measurement of tree biomass for tree health and carbon stock assessment; (c) Assessment of plant species condition; (d) Measurement of green ratio (a) GPS unit used for geo-tagging/mapping; (f) Measurement parameters for Green Cover Ratio (20%).

AWARENESS CAMPAIGN

Through Posters, BEAR and Contest



TIP celebrates its three-month long **Environment Awareness Months** from April-June on an annual basis. These months are jam-packed with environmental programs, learning sessions, environment-related contests and other activities which primarily aim to enhance and broaden employee understanding on environmental management and inspire people to do kind acts for the environment.



An Environment Photo Contest

is a photo exhibit showcasing TIP employees' creativity in capturing photos related to biodiversity.



In observance of the World Environment Day with the theme : Only One Earth on June 22, ECOPhoto Contest was launched for our employees, service providers and contractors.

This initiative champions employee involvement in TIP's advocacy of inspiring people to be more proactive and responsible stewards of the environment. This year, a total of 200 entries were submitted.



A collection drive for household hazardous waste. Collection starts from April 1 until June 30. <Hazardous waste collection> Busted lamps, Used Batteries and WEEE.

The collected Hazardous Waste materials will be sent to a **TIP-accredited Waste Treatment facility** for proper handling, storage and treatment. Precious metals from **WEEE** will be recovered and will be re-used as raw materials.



Quiz Show for Best Environment Enthusiast

An annual quiz show for environment enthusiasts aimed to strengthen it's people's awareness on environmental issues, regulating laws and regulation on environment and ISO 14001:2015 standard



Adopt-an-Estero Project



Activity	Adopt an “Estero” (Canal) Project
Date	June 27, 2022
Location	Ilog Mariano, Brgy. Dela Paz Binan Laguna
Participants	150 TIP Employees, LGU Community and DENR – Environmental Management Bureau
Activity Details	<ul style="list-style-type: none"> - Orientation on Solid Waste and Clean Water - Clean-up of River and Road-side - Donation of Food/Materials - Tree planting of 100 TIP grown Manila Palm Tree seedlings



Orientation about the activity and Awareness Campaign on importance of waterways protection and waste management



Partnership with Government & Community (*Education, Resource Use, Protection of Water Bodies*)



Actual Clean-up of River and Road side



Tree Planting



Total of waste Collected:
350 Kilograms

Watershed Conservation: Tree Planting



Activity	Tree Planting
Date	July 23, 2022
Location	Caliraya-Lumot Watershed Forest Area in Lewin, Lumban, Laguna
Participants	TIP employees with members of the community, NAPOCOR and Philippine Army
Activity Details	<ul style="list-style-type: none"> • Assessment and documentation of previous area planted • Information-Education on Caliraya-Lumot Watershed Management • Tree planting of 100 Manila Palm seedling propagated in TIP



Learning Session on Caliraya-Lumot Watershed Importance and its Use



Planting site



10,000 Native Trees planted

Mangrove Planting



Activity	Mangrove Planting
Date	December 20, 2022
Location	Naic, Cavite
Participants	28 TIP employees and Naic River Rangers
Activity Details	<ul style="list-style-type: none"> 2000 Api-api Mangrove tree planting (from Sariaya) Donation of Tools for their environment projects (Sariaya)



Turtle Conservation



Activity	Turtle Hatchlings Release and Donation of Items for maintenance
Date	December 20, 2022
Location	Brgy. Labac, Naic Cavite
Participants	28 TIP employees, Naic MENRO and Sariaya MENRO
Activity Details	<ul style="list-style-type: none"> Learning session about turtle coastal area conservation 100 Turtle hatchling release Tools Donation for their environment projects





Livelihood of Community and Conservation of Laguna lake & Resources (Water Hyacinth to Handicrafts)



Activity	Useful crafts (Woven materials) from Water Hyacinth
Date	June 21, 2022
Location	Gender and Development Livelihood Center, Brgy. Dela Paz Binan Laguna
Participants	76 TIP Employees, 20 Community Livelihood Members and Binan City GAD Representative
Activity Details	<ul style="list-style-type: none"> • Learning Session on Laguna Lake importance and impacts of Water Hyacinth Proliferation • Sharing of TIP's initiatives to protect lake • Support livelihood of turning Water Hyacinth (lake pollutant) into useful crafts. • Demonstration of Weaving of Water Hyacinth by Community. • Appreciation of Laguna Lake and surrounding community

Banaue Rice Terraces Rehabilitation

Ifugao Rice Terraces is a system irrigated rice terraces of northern Luzon. Known for its picturesque architectural structure, this natural cultural treasure is annually visited by TIP volunteers for rehabilitation. Started in 2010, TIP continuously supports the following activities: Bachang – repair and rehabilitation of rice terraces; rice planting; tree planting; area clean-up; donation of tools to farmers; providing financial assistance and conducting learning sessions to foster awareness in responsible environmental protection and management.

TIP received Toshiba Ashita Award for this Project.



Tree planting



Tree planting



Donation



Environment and Health Awareness and Toshiba Introduction at Tam-ang Elementary School



Toshiba Capsule Installed at Banaue View Point

School Greening Program (SGP)

Toshiba values the essence of education in the world's battle against global warming. TIP believes that developing the love and care for nature at a young age would create a generation of responsible stakeholders driven to promote environmental protection at present and in the future. Through its School Greening Program, TIP conducts various Eco-Forums or environment learning sessions to both Elementary and High School students of Binan City Divisions in the province of Laguna. Part of the program's evaluation is the conduct of Environmental Poster Making Contest and Greenest School Contest which aims to enhance awareness and foster a generation of environmentally literate and responsible students and community; and influence and guide local schools to implement environment protection initiatives to reduce the adverse effects of global warming.



Presentation of Output in Placard Making



Awarding of certificates to winners and cash incentives



Presentation of Individual Placard: State what materials they used (recycled materials) and explain the outcome of their output.

Community Greening Program (CGP)

TIP's Community Greening Program (CGP) is a proactive movement for biodiversity conservation and protection for Toshiba's nearby Communities. The Program is comprised of series of environment learning sessions focused on Global Warming and Climate Change Mitigation, tree planting and mangrove planting, clean-up drives, and other environment-related activities.

Adopt-an-Estero Program

Adopt-an-Estero Program is a collaborative undertaking between TIP, the Local Government Unit of Binan, the residents of Brgy. De La Paz and the Department of Environment and Natural Resources (DENR) designed to clean esteros and protect coastal biodiversity. A memorandum of Agreement (MOA) was signed between TIP and DENR as a sign of TIP's commitment to protect its adopted esteros in the province of Cavite and Laguna up until now.



Orientation about the activity and Awareness Campaign on importance of waterways protection and waste management



Partnership with Government & Community (*Education, Resource Use, Protection of Water Bodies*)



Actual Clean-up of River and Road side



Tree Planting

About the Cover



Conservation and protection of turtle is one of biodiversity programs of TIP. Shown in the photo is the *olive ridley sea turtle* that is one of the smallest turtle species in the world.