

# SUSTAINABILITY REPORT 2022

CREATING SUSTAINABLE IMPACT  
THROUGH TECHNOLOGY





# CONTENTS

03 MESSAGE FROM THE DIRECTOR MARKETING AND BUSINESS MANAGEMENT

04 2022 OVERVIEW

05 FINANCIAL & NON-FINANCIAL HIGHLIGHTS

06 BUSINESS & MARKET DEVELOPMENTS

07 BUSINESS MODEL AND BRANDS  
11 EVNIA

12 OUR COMMITMENT TO THE ENVIRONMENT

13 CLOSING THE LOOP  
15 E INK  
16 ACHIEVEMENTS & GOALS

17 OUR SOCIAL INVESTMENT

18 TPV CARES  
20 MERCY SHIPS  
21 PACT  
24 KLABU

26 GOVERNANCE

27 ESG GOVERNANCE  
28 ANTI-CORRUPTION AND BRIBERY  
28 DATA PRIVACY

29 ABOUT THIS REPORT

30 SCOPE OF REPORT  
30 OTHER ESG POLICIES

31 APPENDIX



# MESSAGE FROM THE DIRECTOR MARKETING AND BUSINESS MANAGEMENT



Dear reader,

The past few years have shown us all, as seldom before, what enormous challenges humanity is facing. Not least the UN Climate Change Conference in Sharm El-Shaikh, Egypt (COP27) has once again brought this home. It is clear that we can only master the necessary major global tasks jointly and that every country and every company must make its contribution to greater sustainability efforts. This is especially true for suppliers in the rapidly developing IT sector.

Let's not hesitate, as the saying goes "every great journey begins with a first step". At TPV, we set out years ago to initiate and continuously develop change at AOC and MMD: This is true for 2022 as much as previous years.

From expanding our cooperation with "Closing the Loop", our partner in helping create a circular economy, to establishing the "TPV Cares" initiative through which we support social projects all over the world such as "Mercy Ships", which advocates for improved medical care in Africa; Our commitment to CSR and Sustainability is multifaceted and is being constantly developed by us.

You can read more about this in our fifth CSR & Sustainability Report.

We look forward to your feedback and are always open to constructive criticism or new ideas.

We wish you an inspiring read.

**Stefan Sommer**

Director Marketing and Business Management at TPV (AOC & Philips Monitors, IT Accessories)



# 2022 OVERVIEW

## GOLDEN ECOVADIS MEDAL

TPV received a Golden EcoVadis medal in June. It's a very positive result for TPV and a recognition of all our efforts. It is also proof that we are creating long term value for our employees, customers, suppliers and communities. EcoVadis now rates TPV as being in the top 6% of companies globally in the Manufacture of Consumer Electronics Industry.



## HUMAN RIGHTS RISK ASSESSMENT

In order to get a better understanding of our potential risks as an employer regarding human rights, TPV has implemented a risk assessment within all of our own operations. Based on the input of all factories, the assessment analyses several topics such as preventing child labour, forced labour and other mitigating measures.



## CLIMATE FRIENDLY FLEDGE – AMAZON

The Climate Pledge Friendly initiative is part of Amazon's commitment to preserving the natural world. Through The Climate Pledge, providing sustainable shopping options, and reducing waste, Amazon is continually working to minimize impacts on the planet. Amazon partnered with a wide range of external organizations, including but not limited to: Governmental agencies, non-profits and independent laboratories, to distinguish more sustainable products. EPEAT is one of them and some of our AOC and MMD monitors already received the certificate.



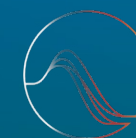
## CLIMATE DISCLOSURE PROJECT

The CDP Score Report allows companies to better understand their score and indicates which categories require attention to reach higher scoring levels. The report enables companies to progress towards environmental stewardship through benchmarking and comparison with their peers. TPV continues to make progress and, based on the 2022 ESG Report, we received an A- for Supplier Engagement, a B for Water Security and a B for Climate Change.



## ESG-PLATFORM

TPV has developed an ESG-platform in order to collect the data for our annual ESG-Report. This will make our data more auditable. All our business entities will be asked to be open and ready to accept audits by PwC and to submit relevant ESG-data per month, in order to structure the process of data collection.



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

## SBTI

Science Based Targets were approved in September and are as follows: TPV Technology Limited commits to reduce absolute scope 1 and 2 GHG emissions 42% by FY2030 from a FY2020 base year. TPV Technology Limited also commits to reduce absolute scope 3 GHG emissions from the use of our sold products by 42% within the same timeframe.



# FINANCIAL & NON-FINANCIAL HIGHLIGHTS

		2021	2022
FINANCIAL	Net turnover AOC	€294,819,651	€253,823,373
	Net turnover MMD	€394,692,735	€492,830,448
	Sold monitors AOC	2,260,858	1,918,508
	Sold monitors MMD	2,462,147	2,518,805
	Sold displays MMD	105,700	110,044
PEOPLE	Total number of employees	114	120
	Total number of training hours per person	10	11.65
	Male-female ratio	73/27	72/28
COMMUNITY	Partnerships to strengthen communities	4	11

Figure 1: Financial & non-financial highlights





# BUSINESS & MARKET DEVELOPMENTS



# BUSINESS MODEL AND BRANDS

AOC & MMD provide monitors and displays that deliver our clients an outstanding experience, no matter the purpose of use. Our mother company TPV forms joint ventures with key component makers to secure stable supply and enhance cost structure.

The TPV group is licensed to sell Philips brand TVs worldwide, with the exception of United States, Canada, Mexico and certain countries in South America. Separately, the Group is licensed to sell Philips brand monitors globally. Philips’ strong brand recognition, R&D capabilities, and innovative products further seal TPV’s strong foothold in the display market. The two-pronged business model, Original Brand Manufacturing (OBM) and Original Design Manufacturing (ODM), broadens market reach and allows more efficient utilisation of resources.



Figure 2: Product market combinations AOC monitors



# THE HISTORY OF AOC

Founded in 1967, AOC is a globally leading monitor and IT accessories brand and a subsidiary of TPV Technology Limited, the world's largest LCD manufacturer. AOC's comprehensive portfolio provides the perfect monitor for every need – professional as well as personal applications.

AOC displays offer an excellent viewing experience wrapped in outstanding designs. With one of the strongest portfolios of high-performance gaming monitors, AGON by AOC is the number one gaming monitor brand in the world. For more information please refer to AOC and AGON by AOC official websites or follow on Facebook, Twitter or Instagram.







Figure 3: Product market combinations MMD



# THE HISTORY OF MMD

MMD-Monitors & Displays Holding B.V. ('MMD'), registered in the Netherlands, with their head offices in Amsterdam, is a wholly owned company of TPV Technology Limited ('TPV'), which is one of the world's leading monitor and LCD TV manufacturers.

Since 2009, MMD-Monitors & Displays Holding B.V. ('MMD') exclusively markets and sells Philips-branded LCD displays worldwide under trademark license by Koninklijke Philips N.V. By combining the Philips brand promise with TPV's manufacturing expertise in displays, MMD uses a fast and focused approach to bringing innovative products to market.

For more information about MMD, please visit [mmdmonitors.com](https://mmdmonitors.com) or follow MMD Monitors & Displays on LinkedIn





# EVNIA

> Philips Evnia was launched in October 2022 with an aim to “Reinvent the Rules” of gaming.

Evnia executes this aim by designing products that are welcoming, innovative, and playful. Following along these lines, Evnia aims to reach every type of gamer and initiates a sustainable approach through their products: The stand’s feet and top cover of all Evnia monitors are made from 35 percent recycled plastic.

Every Evnia product is designed with inclusivity, versatility, and sustainability in mind.



# OUR COMMITMENT TO THE ENVIRONMENT



# CLOSING THE LOOP

➤ In 2022, MMD demonstrated in Nigeria how defective monitors can be recycled in an environmentally friendly and economical way as part of a pilot project of the PREVENT Waste Alliance, an initiative of the German Federal Ministry for Economic Cooperation and Development (BMZ).

Other associates actively involved in the project are:

- Closing the Loop (CTL): a global provider of green procurement services
- TCO Development: the organization behind the world's leading IT sustainability certification (TCO Certified)

Together, we developed a successful business model on developing a sustainable solution for waste-neutral electronics; more specifically, monitors.

The objective of this project is to tackle the daunting fact that 50 million tons per year of electronic waste (e-waste) is one of the most urgent challenges facing our society today.

According to a report by the Platform for Accelerating the Circular Economy (PACE) and the UN E-Waste Coalition<sup>1</sup>, this mountain of waste is mostly dealt with by shipping to African and/or other developing countries for disposal. What happens after this step is the reasoning behind this project: To close the loop from beginning of life (production) to the end (recycling/ disposal) for our monitors.

<sup>1</sup> [A New Circular Vision for Electronics](#): Time for a Global Reboot, World Economic Forum, Switzerland, 2019







But even though almost all new Philips monitors are mercury and lead-free, a large part of them cannot be properly recycled due to a lack of suitable facilities and resources in the developing countries that dispose this waste.

To combat this challenge is Closing the Loop's (CTL) concept of waste offsetting with local community organizations which are already recognized by the public as a green solution for mobile phones, laptops, and tablets. CTL's success comes from adding a fee to the purchase price of new electronic equipment that in turn finances the collection of old equipment for safe recycling.

As part of its commitment to creating more sustainable products, Philips monitors has supported Closing the Loop and a coalition of transnational partners for a year and a half to build a business model that demonstrates how waste compensation programs can be extended to monitor waste. Since then, over 5,500 monitors that were no longer usable were collected for the project.



"We are pleased to have been able to develop a business model with this pilot project that proves that the successful concept of waste compensation not only works for mobile phones, but can also make the difficult business of recycling monitors financially lucrative. Another plus of this project is that it contributes to the development of local recycling capacities as well," says Stefan van Sabben, Global CSR and Sustainability Senior Manager

For more information on the CTL project, check out our blog post [here](#).



# E INK

During the year 2022, Philips ePaper monitors, labeled as models 13B1K3300 and 24B1D5600, were launched in Chinese and North American markets.

E Ink technology, which is the key feature for ePaper displays, is a sustainable alternative to monitor power consumption. As a matter of fact, the normal consumption is typically 6.5 watts, which is about 28 percent less when compared with a 15.6"LCD monitor with normal consumption. In addition to the positive effect on the environment, E Ink Technology also protects against eye fatigue by omitting harsh backlight and blue light that is normally found in conventional LCD monitors.



# ACHIEVEMENTS & GOALS

## PHILIPS MONITORS & PACKAGING ACHIEVEMENTS IN 2022

- Introduction of black and white E-paper display.
- Introduction of paper pulp instead of EPS for models till 27 inches.

## GOALS FOR 2023 & 2024

- Introduction of colour E-paper.
- Implementation of FSC-certified carton.
- Introduction of paper pulp instead of EPS for models till 49 inches.





# OUR SOCIAL INVESTMENT



> At TPV Europe we believe in the power of technology to create amazing and meaningful visual and sound experiences. Our products and our people are at the heart of all we do, and together we continuously explore meaningful ways to help people and communities reach their full potential – every single day.

TPV Cares is the home of our social and environmental impact initiatives. Powered by our business units AOC, MMD, PPDS and TP Vision, TPV Cares makes our visual and sound experience products - as well as financial and volunteer support - available to deserving community projects.

## MISSION & VISION

It is TPV Cares' mission to help unlock the full potential of people and their communities, whether it's to facilitate state-of-the-art eLearning solutions direct to people or via fundraising in support of finding a cure for spinal cord injuries.

We want to help all people to be able to get the most out of their situation in life and to help improve their health, wellbeing and education.

The projects we support are long term relationships with lasting impact. We support partners and initiatives that are intrinsically linked to our business, our products and our focus on the UN Sustainable Development Goals regarding Good Health & Well-being (SDG 3) and Quality Education (SDG 4).



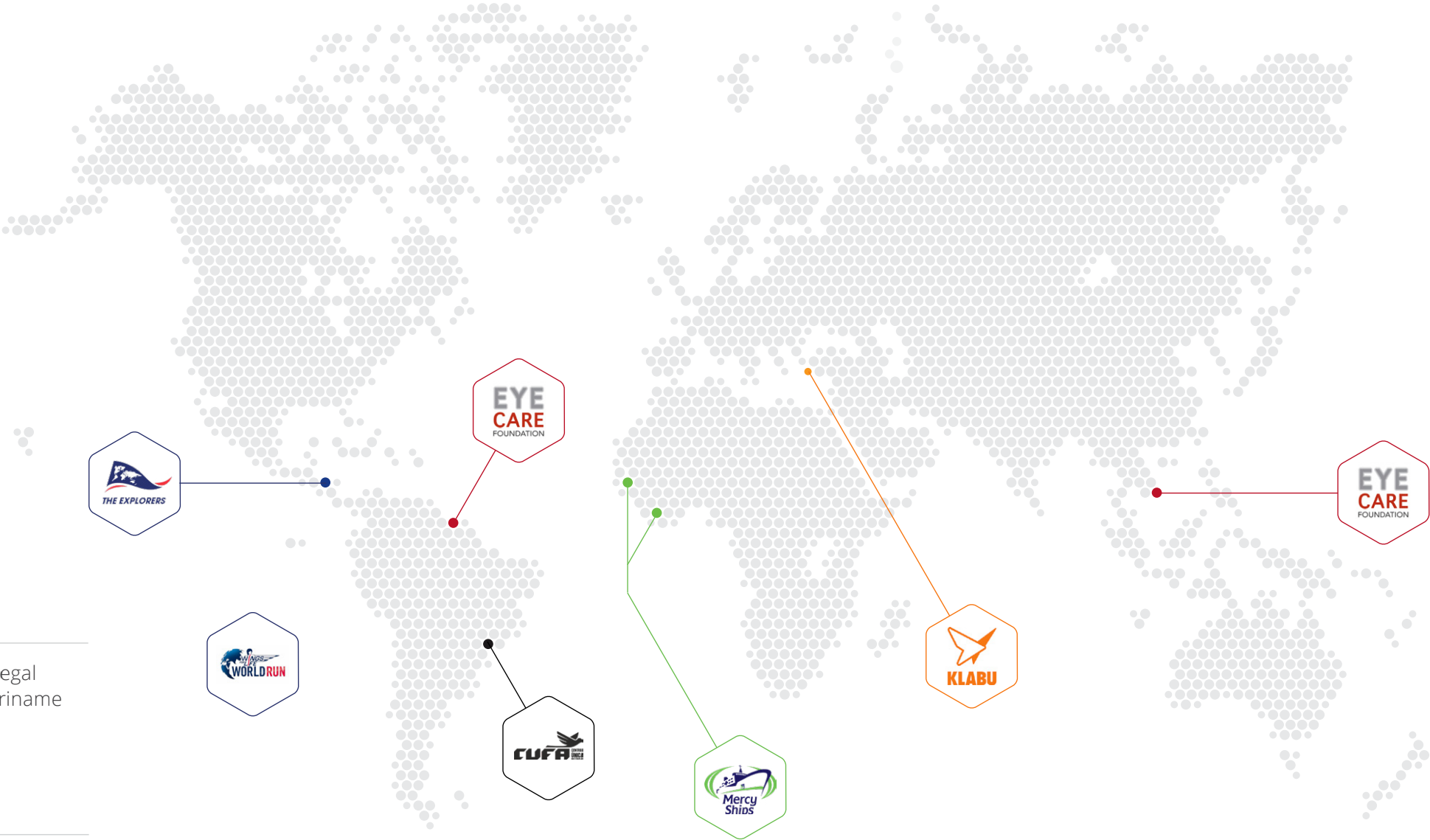
> As our products evolve and become more sustainable over the coming years, TPV Cares may also in the future look into expanding its initiatives by contributing to the more environmentally focused areas covered by the Responsible Consumption and Production (SDG 12) and Climate Action (SDG 13).

With our global footprint we see great opportunity in supporting local initiatives on a worldwide scale.

By 2027, TPV Cares aims to have further strengthened and expanded its initiatives, contributing to the UN's Sustainable Development Goals via our products, our financial support and our people.

Our aim is to encourage 80% of our team to actively support, or to have had the opportunity to support, a local initiative through volunteer work.

- |                                   |                   |
|-----------------------------------|-------------------|
| ● <b>Mercy Ships</b>              | Guinea, Senegal   |
| ● <b>Eye Care Foundation</b>      | Vietnam, Suriname |
| ● <b>The Explorers Foundation</b> | Honduras          |
| ● <b>KLABU</b>                    | Lesvos            |
| ● <b>CUFA</b>                     | Sao Paulo         |
| ● <b>WFL</b>                      | Globally          |







## CASE STUDY

# MERCY SHIPS

### NEW PROJECT IN SENEGAL

> In Senegal, there are only 200 dentists for a population of more than 17 million people.

Adding to the lack of dental professionals, dental care centers are also not easily accessible by the population living outside of big cities and most of the time treatments are unaffordable. As a result, 70% of the population suffers from dental decay. (source WHO Africa). In 2022, we partnered with Mercy Ships and the Improve Foundation in Senegal to support the dental care federation UCMPS.

The program aims at significantly improving the access to oral care in Senegal, by enrolling and training 20 dental professionals over the coming four years and setting up or improving ten dental clinics in the country. This year, three students have started the program to become dental professionals. Also, Philips televisions have been installed in the waiting rooms of the dental clinics, showcasing dental care prevention programs on screens for the numerous patients awaiting to be treated.



### UPDATE OF PROJECT IN GUINEA

- Eleven students have completed the post-graduate program at the Gamal University in 2022
- Eleven students have started the program starting with intensive simulation training.

There are now over 30 dentists that have completed the 18-month training program with Mercy Ships. The Gamal Dental Clinic is increasingly becoming the place to go in the region and students also come from neighboring countries like Niger, Djibouti and Cameroon. Because of the newly educated dentists thousands of people will be provided access to dental health care.



## CASE STUDY



# PACT

### > In DRC, First Aid Trainings, Outreach Help Miners Improve Occupational Health and Safety

Pact works in partnership with governments, industry, and artisanal miners to make small-scale mining (ASM) safer, more productive, and equitable. In the Democratic Republic of Congo, we've been improving occupational health and safety (OHS) at mine sites by training local mining stakeholders (including artisanal miners), mining cooperatives, and state mining services. In addition, Pact has worked on DRC's Mining Code and Regulations on ASM that were adopted in 2018.

Building on the first year of our formalization and governance project funded by AOC International (Europe) B.V. and MMD-Monitors & Displays Nederland B.V. (Philips Monitors), and implemented alongside the DRC NGO Bepat, in 2022 we extended training and outreach activities to reach more miners/mine sites, install sign boards with OHS messaging, conduct first aid classes, and overall improve mine site safety.



Originating in DRC's Goma and North Kivu in 2021, the project expanded to Rubaya in the Masisi territory in 2022. Pact continued to disseminate a well-received booklet from the project's first year covering key legal aspects of the Congolese Mining Code and Regulation.

During the project's second year, Pact rolled out additional trainings to accompany the booklet for miners working at tin, tungsten, and tantalum (3T) artisanal mine sites. These additional trainings were focused on OHS awareness, first aid skills and legal requirements in the DRC mining code.

The first aid trainings were particularly effective and sustainable because of their practical demonstrations. These trainings were lead by a supervisor from SAEMAPE (Service d'Assistance et d'Encadrement de l'Exploitation Minière Artisanale et à Petite Echelle), the DRC government agency mandated to support the ASM sector.

Through five training sessions, 456 participants that composed of a group that was 17 percent women as well as miners, OHS committee members, and nearby community members.

In these sessions, the group learned four techniques for stabilizing injured miners for evacuation or until medical staff can arrive. These techniques included: how to stop bleeding, immobilizing fractured limbs, how to make a lateral security position, and information on transporting victims.

### THE CREATION OF OHS COMMITTEES

In addition to hands-on first aid training, another key success has been the creation of OHS committees comprised of 20-plus members who are trained with the project's booklet.

These members serve as regional trainers and their responsibility is to pass on mining knowledge by training other miners and cooperatives. The committees also serve as a forum to discuss challenges, successes, and how lessons learned can be practically applied in other regions participating in the project.

The support of local leaders has been crucial to identifying mines to expand the training and thereby create new OHS committees.







These OHS committees include representatives of mining cooperatives, technical service agents from the Ministry of Mines (SAEMAPE and DIVIMINES) and the Mining Police (PMH). During project and OHS committee meetings, local leaders also highlighted additional areas with recent increases in accidents and health and safety issues that could benefit from trainings and OHS committees.

The interventions are making an important difference. Mr. Emmanuel, the secretary and mining operations manager of the mining cooperative COMIDC, believes the trainings and OHS committee at their mine site will enable the monitoring and resolution of OHS-related issues and accidents, such as flooding and landslides.

"I think that the risk of accidents on the site can be significantly reduced if the cooperative takes its responsibilities and puts into practice what was learned during the training," COMIDC site manager Fidèle Rukapa said.

"I have visited more than three sites and noted that the miners are equipped with PPE, and their wells are dug correctly and protected by wooden support."

### ENGAGED COMMUNITIES

Beyond helping to build safer, more responsible practices, the OHS trainings and committees are building ownership and engagement among local stakeholders.

Through the OHS committees, miners and mine sites conduct their own assessments to identify and address risks and violations of the mining code. For example, some mines added sign boards to the entrances of their sites with pictures and messages to easily communicate safe mining practices.

As of the end of 2022, the project had directly benefitted 3,135 miners (including 274 women) across 11 mine sites, and 300 community members (including 50 women) across five mining sectors. In addition, the project installed 20 signboards and distributed 200 posters and booklets on the DRC Mining Code and OHS at key locations.

As we enter the third and final year of the project, AOC, MMD, Bepat, and Pact are looking forward to expanding trainings to more mines and communities, further developing the capacity of local stakeholders and government agencies, establishing more OHS committees, and continuing to foster systemic change in safety, knowledge and practical application of the DRC Mining Code across the country's Masisi mining territories.





CASE STUDY



KLABU

> For the next two years, TP Vision will support the KLABU Foundation in its mission: to use sports as a powerful tool to support the undefeatable spirit of refugees by sparking hope and joy in refugee camps.

TP Vision will contribute financially and will also provide KLABU clubhouses with Philips TV & Sound products, including Ambilight TVs, headphones, sound bars and Bluetooth speakers. KLABU clubs are unique safe spaces located in refugee camps where children, teenagers and their families can unlock the power and joy of (e)sports, music and community. To run the clubhouses, KLABU developed a smart library system. Local managers lend sports equipment and games. The clubhouses also offer access to solar powered Wi-Fi / connectivity, broadcasted TV games, music and more sources of entertainment and education. Philips TV & Sound products will contribute to the community experience in KLABU clubhouses. Philips Ambilight TV screens are mounted in the KLABU clubhouses for education purposes as well as to play e-sports and watch football matches, while Philips Sound products offer a superior music experience.



## Update of KLABU in Lesvos

- Launched: September 2022
- Location: Mavrovouni Camp, Lesvos, Greece
- Project elements: Two clubhouses (one next to sports courts and one in the residential area of the camp)
- Focus group: young asylum seekers (under 30) from 18 countries
- Main age group of members: 18 to 25
- Reach: 1,500 camp residents including 200 regular weekly participants in sports activities and many indirect beneficiaries from the music and television
- Activities offered: sports library, football, basketball, running, live matches & music

Two years after the Moria refugee camp in Lesvos was ravaged by fire, people are still arriving every week seeking asylum. There are currently 1,500 adults and children in the new Mavrovouni camp.

Many are dealing with trauma and frustration, and their days are often filled with uncertainty and fear. They all share one dream: to spread their wings for a safer future and to rebuild their lives.

In the Summer of 2022, KLABU established a sports clubhouse in Mavrovouni in partnership with Movement on the Ground, the Dutch NGO, to help make life in the camp slightly more bearable.

Working on a grassroots basis with the residents of the camp, KLABU opened two sports clubhouses to provide access to equipment, music and television. The clubhouses are run by resident volunteers who oversee the borrowing of sports equipment as well as plan the match screenings. They are also responsible for the music that is played around the clubhouses to create a positive atmosphere.







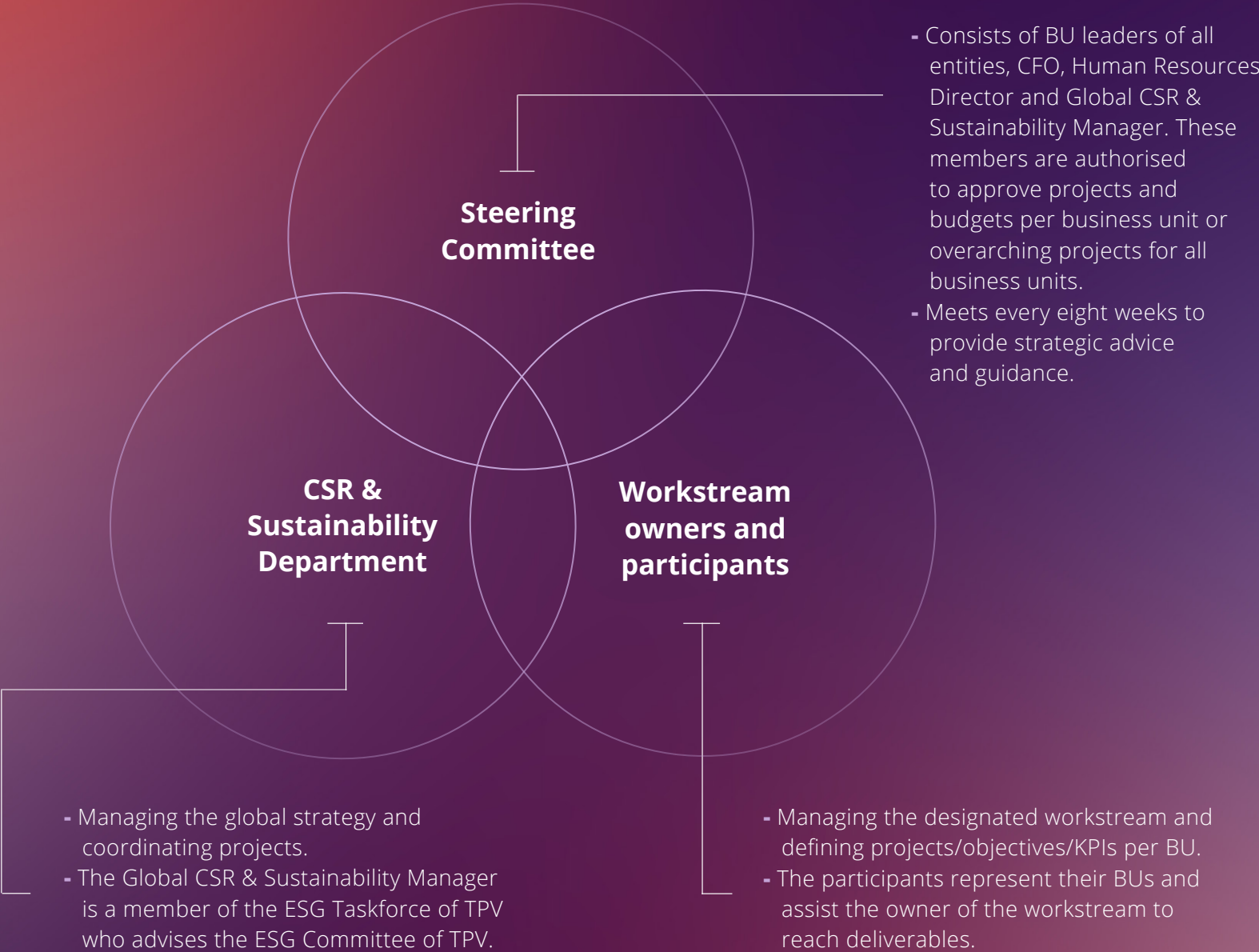
# GOVERNANCE



# ESG GOVERNANCE

For CSR and sustainability to result in significant change, it's necessary to have support at all levels in our organisation. Our Sustainability Steering Committee is represented by every part of our organisation and across each of the TPV business units.

Members of the Steering Committee are selected by their management team to represent their business unit. Together with workstream owners they discuss new projects and initiatives every eight weeks.



# ANTI-CORRUPTION AND BRIBERY

AOC & MMD and its supply chain conducts its business in strict compliance with applicable laws and regulations, including national and international anti-bribery laws, and we expect the same from our business partners. Bribes are illegal payments or other types of compensation made to influence and gain profit from an individual, company or government official.

AOC & MMD and its employees shall not, and shall not attempt to, influence government policy or obtain or retain business or an advantage in the conduct of our business by offering or accepting illegal payments, bribes, kickbacks or other illegal methods.

Anti-bribery laws including national laws adopted pursuant to the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, the US Foreign Corrupt Practices Act and the UK Bribery Act 2010 prohibit, in general, the payment, offer or authorised gift of anything of value, either directly or through a third party to other persons or to government officials, political parties, politicians, or political candidates, public officers in state owned enterprises, officials of a public international organisation or holders of a legislative, administrative or judicial position of any kind with the intent to obtain or retain business, direct business to any person, obtain an improper business advantage or influence an official act or decision of such other person or government official.

These anti-bribery provisions apply not only to companies but also to individuals, such as employees. If an employee has actual knowledge of bribery, or if bribery is suspected, it is mandatory to report such information to AOC & MMD's independent compliance officer. The number of cases and reports regarding anti-corruption and bribery was zero in 2022.

# DATA PRIVACY

Data privacy is an important consideration in the workplace and when conducting a business. We respect customers' data privacy and their rights to the personal information gathered via our products and services. Data and privacy protection procedures are in place and communicated to our employees through regular trainings. All collected personal data is accessible only by authorised personnel and the data is handled in a confidential manner.

During the development of our products we use 'privacy by design' to limit the amount of personal data that is needed and to inform our customers about how their personal information is used. In May 2018, the General Data Protection Regulation (GDPR) was implemented in the EU. This is applicable for all companies that control and process personal information, which is subject to several requirements. These include having the right policies in place and entering data processing agreements with other organisations that process personal data on our behalf.





# ABOUT THIS REPORT



# ABOUT THIS REPORT

> Thank you for reading AOC & MMD's CSR & Sustainability Report. The report covers key activities and accomplishments during the fiscal year 2022, 1 January 2021 through December 31 2022.

We report annually on our efforts, and this year by means of an update report. In case of any questions regarding this annual report, please send an email to; stefan.vansabben@tpv-tech.com

## SCOPE OF REPORT

1. AOC International (Europe) B.V.
2. MMD-Monitors & Displays Nederland B.V.

Keep up to date with AOC & MMD  
Visit our website [www.aoc.com](http://www.aoc.com) and  
[www.mmdmonitors.com](http://www.mmdmonitors.com)

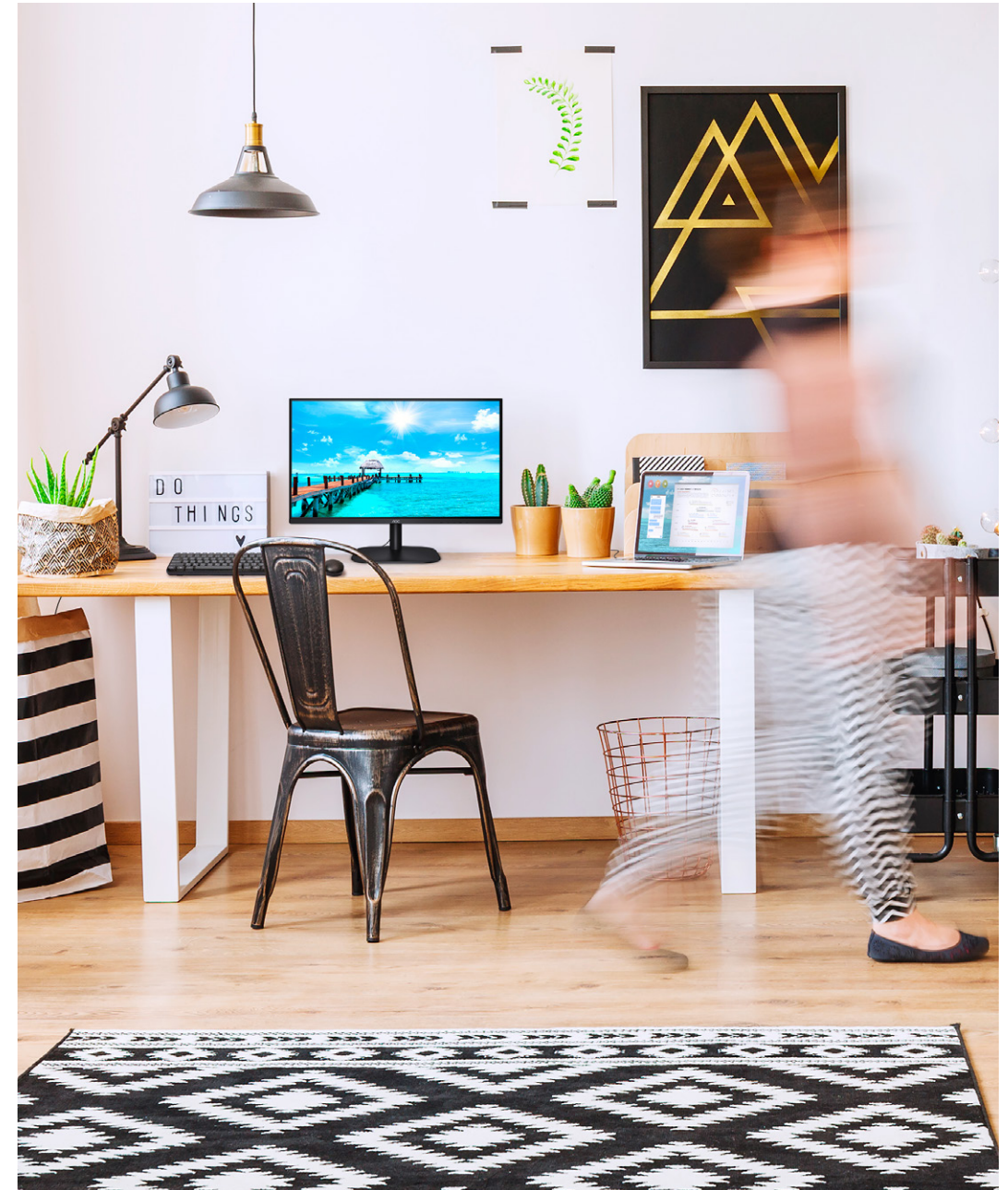
## FEEDBACK AND CONTACT

We are keen to improve the value of our reporting and therefore welcome comments on this document, and our sustainability information on the website. Please contact our Global CSR & Sustainability Manager Stefan van Sabben, [stefan.vansabben@tpv-tech.com](mailto:stefan.vansabben@tpv-tech.com)

## OTHER ESG POLICIES

- Code of Conduct
- Human Rights Policy
- CSR Supplier Code of Conduct
- Modern Slavery Statement
- Environment Protection Policy
- Conflict Minerals Report

You can access these policies [here](#)







# APPENDIX



# AOC & MMD OVERALL CO<sub>2</sub>E DATA AND PRODUCT TRANSPORTATION GHG EMISSION TARGET

	UNIT	SCOPE 1 + SCOPE 2	SCOPE 3 PRODUCT CARBON FOOTPRINT	SCOPE 3 SUPPLIER GHG	SCOPE 3 FREIGHT GHG	TOTAL TONNES CO <sub>2</sub> E
2020	Tons CO <sub>2</sub> e	411.00	855,879.00	71,415.00	27,157.00	954,862.00
2021	Tons CO <sub>2</sub> e	449.00	891,320.00	82,584.00	33,483.00	1,007,836.00
2022	Tons CO <sub>2</sub> e	633.19	970,985.91	49,032.68	21,655.66	1,042,307.44

AOC & MMD has started to cover product carbon footprint, freight carbon footprint since 2020. The 2022 product GHG CO<sub>2</sub>e of 970,985.91 is slightly higher than in 2021 (891,320.00), because 2022 has more involved EPEAT registered models.

For freight GHG reduction, AOC & MMD has bigger ratio of sea transportation in 2022 compared to 2021 (68.09%) and 2020 (71.70%). AOC, & MMD also has done a lot of work to drive carrier suppliers to use more green fuel to reduce product transportation GHG emissions, which is to reduce 15% by 2030, with the following measurements;

1. To increase slip sheet packaging percentage;
2. In priority to use carriers which performs better for IMO2020;
3. To improve product design as promoting more slim and light products;
4. To decrease train and airfreight shipment.



# 1. 2022 CO<sub>2</sub> EMISSION OF AOC & MMD ENTITIES

ACTIVITY		MMD MONITORS & DISPLAYS NEDERLAND B.V.						
		AOC INTERNATIONAL (EUROPE) B.V.	ENVISION PERIPHERALS, INC.	MMD SINGAPORE PTE. LTD.	TPV TECHNOLOGY INDIA PVT. LTD.	MMD (SHANGHAI) ELECTRONICS TECHNOLOGY CO., LTD.	WUHAN ADMIRAL TECHNOLOGY LTD.	OVERALL
		NETHERLAND	USA	SINGAPORE	INDIA	SHANGHAI	WUHAN	
SCOPE 1 (TONES CO <sub>2</sub> E)	Natural Gas Stationary Combustion	10.75	13.36	0	0	0	54.24	78.35
	Petrol Mobile Compubstion	6.13	0	0	0	0	10.95	17.08
	Scope 1 Direct Emissions	16.88	13.36	0	0	0	65.19	95.43
SCOPE 2 (TONES CO <sub>2</sub> E)	Purchased Electricity	6.67	43.82	41.12	211.32	179.7	55.13	537.76
	Scope 2 Indirect Emissions	6.67	43.82	41.12	211.32	179.7	55.13	537.76
TOTAL		23.55	57.18	41.12	211.32	179.70	120.32	633.19



## 2. 2022 AOC & MMD ENTITIES RELATED ACTIVITY

ACTIVITY		MMD MONITORS & DISPLAYS NEDERLAND B.V.						OVERALL
		AOC INTERNATIONAL (EUROPE) B.V.	ENVISION PERIPHERALS, INC	MMD SINGAPORE PTE. LTD.	TPV TECHNOLOGY INDIA PVT. LTD	MMD (SHANGHAI) ELECTRONICS TECHNOLOGY CO., LTD.	WUHAN ADMIRAL TECHNOLOGY LTD	
CONSUMPTION	UNIT	NETHERLAND	USA	SINGAPORE	INDIA	SHANGHAI	WUHAN	
NATURAL GAS	Nm3	6,010	-	-	-	-	-	6,010
	Therm	-	2,521	-	-	-	-	2,521
	m³	-	-	-	-	-	24,812	24,812
PETROL	Liter	30,057	-	-	-	-	4,772	34,829
ELECTRICITY	kWh	107,555	61,811	81,595	137,224	318,560	154,258	861,003

# 3. 2022 AOC & MMD ENTITIES WATER CONSUMPTION

ACTIVITY		MMD MONITORS & DISPLAYS NEDERLAND B.V.						OVERALL
WATER CONSUMPTION	UNIT	AOC INTERNATIONAL (EUROPE) B.V.	ENVISION PERIPHERALS, INC	MMD SINGAPORE PTE. LTD.	TPV TECHNOLOGY INDIA PVT. LTD	MMD (SHANGHAI) ELECTRONICS TECHNOLOGY CO., LTD.	WUHAN ADMIRAL TECHNOLOGY LTD	
	m³	NETHERLAND	USA	SINGAPORE	INDIA	SHANGHAI	WUHAN	
		92	40	75	209	1219	625	2260



# 4. 2022 CO<sub>2</sub> EMISSIONS OF AOC & MMD SUPPLIERS

		TPV ELECTRONICS (FUJIAN) CO., LTD	TPV DISPLAY TECHNOLOGY (WUHAN) CO., LTD	L&T DISPLAY TECHNOLOGY (FUJIAN) LTD.	OVERALL
ACTIVITY	UNIT	TPV FUJIAN	TPV WUHAN	L&T	
SCOPE 1	Tons CO <sub>2</sub> e	1,859.11	1,421.13	275.69	3,555.93
SCOPE 2	Tons CO <sub>2</sub> e	32,573.27	7,073.23	5,830.25	45,476.75
TOTAL		34,432.38	8,494.36	6,105.94	49,032.68

# 5. 2022 GHG ACTIVITY DATA OF AOC & MMD SUPPLIERS

EMISSION SOURCE	UNIT	2022 ACTIVITY DATA			OVERALL
		TPV FUJIAN	TPV WUHAN	L&T	
NATURAL GAS	m³	223,073.00	440,439.25		663,512.25
LIQUEFIED PETROLEUM GAS	Kg	-	-	-	-
GASOLINE	Kg	33,237.89	6,908.95	16,031.17	56,178.01
DIESEL OIL	Kg	13,535.30	1,660.00	7,771.37	22,966.67
ACETYLENE	Kg	-	-	-	0.00
CO2	Kg	-	16.00	-	16.00
R22	Kg	327.60	-	-	327.60
R123	Kg	-	-	100.00	100.00
R404A	Kg	10.00	-	-	10.00
R23 OR R32 OR R134A OR R407C	Kg	-	-	-	0.00
HCFC-123	Kg	-	-	-	0.00
HCFC-227EA	Kg	-	-	-	0.00
SEPTIC-TANK BOD(CH4)	Kg	36,330.68	32,176.95	14,152.59	82,660.23
PURCHASED ELECTRICITY	kWh	57,116,024.00	12,402,639.96	10,223,124.04	79,741,788.00



# 6. 2022 AOC & MMD SUPPLIERS WATER CONSUMPTION DATA

ACTIVITY	UNIT	TPV FUJIAN	TPV WUHAN	L&T	OVERALL
WATER CONSUMPTION	m <sup>3</sup>	629,943	74,286	49,555	753,784

# 7. AOC & MMD FREIGHT AND RELATED GHG DATA

FREIGHT WAY	ITEM	2022	2021	2020
ALL	TONE*KM	737,757,384	911,258,601	868,144,538
ALL	TONE*KM Increased Ratio to 2020	-15.02%	4.97%	-
ALL	CO <sub>2</sub> E TONNE	21,656	33,483	27,157
ALL	CO <sub>2</sub> E TONNE Increased Ratio to 2020	-20.26%	23.29%	-
ALL	KG CO <sub>2</sub> E/KG*M	0.029	0.037	0.031
ALL	KG CO <sub>2</sub> E/KG*M Increased Ratio to 2020	-6.16%	17.46%	-
ROAD TRUCK	TONE*KM	73,514,786	113,134,690	73,822,028
ROAD TRUCK	TONE*KM Proportion in All Freight of a year	9.96%	12.42%	8.50%
ROAD TRUCK	TONE CO <sub>2</sub> E	12,869	15,101	9,737
ROAD TRUCK	TONE CO <sub>2</sub> E Proportion in All Freight of a year	59.42%	45.10%	35.85%
ROAD RAILWAY	TONE*KM	98,784,728	177,680,215	171,851,434
ROAD RAILWAY	TONE*KM Proportion in All Freight of a year	13.39%	19.50%	19.80%
ROAD RAILWAY	TONE CO <sub>2</sub> E	3,513	6,118	5,429
ROAD RAILWAY	TONE CO <sub>2</sub> E Proportion in All Freight of a year	16.22%	18.27%	19.99%
SEA	TONE*KM	565,457,871	620,443,696	622,471,076
SEA	TONE*KM Proportion in All Freight of a year	76.65%	68.09%	71.70%
SEA	TONE CO <sub>2</sub> E	5,274	12,264	11,991
SEA	TONE CO <sub>2</sub> E Proportion in All Freight of a year	24.35%	36.63%	44.15%

For GHG policy please refer to <https://www.tpv-tech.com/en/duty3.html> for 2022 ESG Report of TPV.



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