## 2023 ANNUAL REPORT ON CARBON NEUTRALITY OF TCL INDUSTRIES

## TCL



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## **FOREWORD - MESSAGE FROM THE LEADERSHIP**



Respected readers and friends,

In 2023, against the backdrop of numerous challenges and uncertainties. TCL Industries still adhered to the corporate values of "Change, Innovation, Responsibility, and Excellence", firmly implemented the strategy of "Improving Operational Quality and Efficiency, Enhancing Strengths to Shore up Weaknesses, Accelerating Global Expansion as well as Innovation-Driven Development", and upheld the spirit of "Forging Ahead and Daring to Exceed". With the joint efforts of our global employees and the strong support of our partners, TCL Industries has made remarkable achievements in development. In the past year, we have continued our efforts in promoting industrial transformation and upgrading, strengthening our technological innovation capability, and expanding our global operation, in a bid to achieve the goal of high-quality development.

Guided by our "Global Leadership" strategy, TCL Industries actively pursues changes and transformations while consolidating our core businesses. Amidst intense market competition, we have increased our efforts in technological research and development (R&D) to inject more momentum into the high-end manufacturing sector. In 2023, the Company's R&D investment hit RMB 4.09 billion. Considering the changing global trade rules, I maintain and reiterate our principle of "going overseas or getting knocked out", and actively adapt to the international market environment alongside the Company. Moreover, we proactively link the global industrial chain, and continuously expand our overseas business to ensure steady growth of our business. In 2023, the Company's revenue stood at RMB 120.32 billion, a year-on-year increase of 13.4%. Green development is a longterm business strategy and a global branding strategy of TCL Industries. We have elevated our carbon peaking and carbon neutrality management to a new strategic height by establishing a sustainable development governance system led directly by the Board of Directors, and meanwhile deepening the integration of environmental factors into the

Company's strategic planning and daily operations. To cope with the increasingly fierce and complex international market environment, we have strengthened our compliance management system, raised our awareness of risk control for carbon peaking and carbon neutrality. Under the user-centered principle, we provide our customers with green, low-carbon, and environmentally friendly products and services, which in turn strengthened our operational capability and global competitiveness throughout the business cycle.

Climate change poses challenges and also brings opportunities. In 2023, we established a governance framework to address climate change, under which we outlined our goals and plans, and promise to achieve carbon peaking by 2030 and carbon neutrality in our operations by 2050. We are committed to optimizing resource allocation, developing circular economy, and reducing the impact of our operations and industrial chain on the environment. Meanwhile, we are actively seizing opportunities in the field clean technology to cater to the new market demand for green and low-carbon products brought along with climate transition. TCL Industries hopes to contribute our part to global sustainable development with these efforts.

For TCL Industries, the year of 2024 marks the beginning of a new chapter in sustainable development with the "carbon peaking (2030) and carbon neutrality (2050)" strategic goal governance system. "Building a Sustainable & Connected Future with Advanced Technology" is our unwavering mission and vision. In collaboration with our global colleagues and partners, we will continuously create higher economic, environmental, and social value through technological innovations and practical actions, and make greater contributions to strengthening new productive forces, as well as to China's high-quality development and the world's sustainable development. We would hereby like to express our deep gratitude to all stakeholders who always care, recognize and support TCL Industries! We will continue to work with all parties to seek common development and create a brighter future.

Founder, Chairman, Executive Director of TCL, and Chairman of the Strategy Committee

Current Chairman of TCL Technology Group Co., Ltd. (formerly known as TCL Group Co., Ltd.) (000100.SZ) CEO and Chairman of TCL Industries Holdings Co., Ltd.



## FOREWORD - MESSAGE FROM THE LEADERSHIP



Dear readers and friends,

In the past year, global climate change has been significantly affecting our daily lives and work routines with its undeniable force that cannot be ignored. Facing this challenge, TCL Industries has actively responded to the call of the Paris Agreement, firmly committing to and accelerating the advancement of sustainable development strategies, striving to contribute a significant effort to the future of our planet.

For TCL Industries, the year 2023 holds paramount importance as it marks a pivotal moment in our pursuit of green transformation and carbon neutrality goals. On July 6, we unveiled the White Paper on Carbon Neutrality, outlining our commitment to the "2030 and 2050" goals. This entails achieving the ambitious blueprint of carbon emissions peak and carbon neutrality within a specific timeframe. This commitment is supported by our established carbon emission management system, which includes comprehensive accounting of greenhouse gas emissions, scientific prediction of future emission reduction trends, and detailed strategies for carbon reduction and offsetting.

As a member of the globalized business community, TCL Industries deeply understands the social responsibility it bears. Therefore, we have adopted a green and sustainable development strategy of "joining hands with the value chain and society to build a net-zero ecosystem". At the board level, we have established a robust Corporate Social Responsibility (CSR) management framework, ensuring the principles of green development deeply ingrained and as an integral part of our strategic planning and daily operations. We continuously enhance our governance systems to ensure the effective implementation and ongoing refinement of our carbon neutrality initiatives.

We recognize the importance of aligning with the times,

collaborating and co-creating with multiple stakeholders, and achieving a harmonious coexistence with nature on the journey towards sustainable development. In the pursuit of high-quality development, TCL Industries remains steadfast in upholding high standards of corporate social responsibility. Through a wide array of innovative measures, we have significantly improved our capabilities for low-carbon operations. These include the use of plastic-free spraying materials and advanced injection molding techniques to reduce the need for electroplating and spraying, the enhancement of mold efficiency and product quality through extrusion technology, the promotion of environmentally friendly soy ink for zero-pollution packaging, and the application of advanced logistics management software to optimize transportation methods and reduce carbon emissions. Furthermore, we are committed to establishing "zero-waste factory". Through initiatives such as conducting carbon audits, adopting photovoltaic green electricity, implementing energy management and energy-saving diagnostic projects, and employing intelligent water circulation and exhaust gas treatment systems, we are consistently decreasing our environmental footprint.

We have also been actively exploring the deep integration of green industrial ecology and social welfare. Through the comprehensive upgrade of the low-carbon campus project based on TCL photovoltaic technology, we contribute our efforts to the construction of "zero-carbon campus" and the promotion of environmentallyfriendly development in the education sector. Meanwhile, we forge a green ecosystem zealously, taking the lead in the home appliance industry by launching and endorsing the Initiative on Building a Green Supply Chain. Hand in hand with our supply chain partners, we are propelling the industrial transition towards sustainability. The establishment and promotion of TCL Green culture has led to greater user preference for our low-carbon and ecofriendly products and services.

In the future, TCL will remain focused on crafting a robust industry chain ecosystem, spearheading breakthroughs in pivotal technologies, and stimulating collective growth across the entire industry chain, thereby realizing highquality development. Hereon, we extend our heartfelt gratitude to each and every individual who has bestowed trust and support upon the TCL Industries. Going forward, we look forward to joining hands with you, as we embark on an exciting journey towards a better future.



CEO of TCL Industries Holdings Co., Ltd.

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# 02 About tcl industries





The organizational scope of this report covers TCL Industries Holdings Co., Ltd. and our subsidiaries, including TCL Electronics Holdings Limited, listed in Hong Kong (stock code 01070.HK) and registered as a limited company in the Cayman Islands.

In the current year, the subsidiary of TCL Industries, Guangdong Homa Appliances Co., Ltd. (hereinafter referred to as "TCL Smart Home"), acquired 100% equity of TCL Household Electric Appliance (Hefei) Co., Ltd. (hereinafter referred to as "TCL White Household Appliances") on December 20, 2023. TCL White Household Appliances became a wholly-owned subsidiary of TCL Smart Home (hereinafter referred to as "Hefei Household Appliances"). This report discloses relevant information and data about TCL White Household Appliances for the current and previous years under the disclosure of TCL Smart Home or Hefei Household Appliances.

Engaged in tapping into the international markets and channels for years, TCL Industries has established a complete supply chain system worldwide. We currently have more than 60,000 employees in Asia, America, Europe and Oceania. We have also set up multiple R&D institutions around the world and sales agencies in more than 80 countries and regions. Our business covers 160 countries and regions, and our brands include TCL, XESS, ROWA, FALCON, HOMA, TONLY, etc.





#### 2023 Annual Report on Carbon Neutrality of TCL Industries

TCL



TCL Electronics has been on the Main Board of the Hong Kong Stock Exchange since November 1999. Its business covers display business, innovation business, and internet business, making it the only diversified consumer electronics company in the domestic industry with a vertically integrated industry chain. In 2023, TCL Electronics seized the market opportunities brought by the high-end and large-screen trends in the global TV industry to secure a stready increase in shipment volume,with the TCL smart screen global shipments reached 25.26 million units, a year-on-year increase of 6.2%. The global shipments of TCL smart screen of 65 inches and above increased by 35.5% year-on-year, the global shipments of TCL Mini LED smart screen increased by 180.1% year-on-year, and the global shipments of quantum dot smart screen increased by 116.1% year-on-year, continuously promoting the high-end upgrade of TV products.



**TCL Air-Conditioners** 

TCL Air-Conditioners has been deeply involved in the industry for 25 years. Driven by category innovation and guided by customer needs, the company puts the focus on brand influence enhancement and marketing breakthroughs. It has established a product system covering soft wind systems and fresh air series, and provides air conditioners of various styles and functions, including the smart soft wind model, cabinet unit, hanging unit, and cabinet unit for bedrooms, living rooms, and baby care rooms. It aims to become a "healthy air expert for you". TCL Air-Conditioners vigorously promotes its layout in intelligent manufacturing and the global supply chain layout and now has ten production bases globally. Its annual production in 2023 exceeded 16 million sets. The products are sold to more than 160 countries and regions, ranking among the top four in production and sales volume in the industry and among the top three in export. It has become a large professional refrigeration enterprise integrating research and development, production, sales, and service.



TCL Smart Home was founded in 2002 and has been listed on the Shenzhen Stock Exchange since April 2012 (stock code SZ.002668). Registered in Nantou Town, Zhongshan City, Guangdong Province, the company is the world's largest export refrigerator manufacturing base and a leading Chinese exporter of refrigerators. In 2023, TCL Smart Home acquired 100% equity of Hefei Household Appliances, becoming the only research, development, design, and manufacturing entity of refrigerators and washing machines under TCL Industries, and thus realizing business integration and expansion and enhancing its continuous operation capabilities. TCL Smart Home maintains industry-leading levels in research and development technology, process design, product quality, manufacturing costs, and operational efficiency. Its refrigerator products have consistently ranked first in China's total export volume and have been the leading brand in the European market for many years. The company's products are sold in more than 130 countries and regions worldwide. With the values of "Customer first, Team-oriented," the company provides the most competitive products to global customers with an extreme professional philosophy.



#### Tonly Technology

Founded in 2000, Tonly Technology is engaged in ODM (original design manufacturing) businesses of audio products, wearable devices, AIoT (artificial intelligence of things) products, and precision components and accessories. The company has established research and development centers in Huizhou, Shenzhen, Xi'an, and Malaysia. It also possesses strong capabilities in technology pre-research, audio and video product research and development, acoustic product research and development, software development, and AIoT product development. Tonly Technology has world-leading production lines and cutting-edge testing equipment, as well as an efficient global supply chain management system. It provides customers with high-quality products and is committed to becoming a global leading provider of innovative intelligent product solutions and services. In the future, The company will focus on the development and application of acoustic technology to quickly achieve cost-effective scale manufacturing and provide customers with one-stop intelligent solutions.



Established in 2009, TCL Environmental Technology is a professional enterprise group engaged in waste resource recycling and comprehensive environmental services. It has established six production bases in Huizhou, Tianjin, Shantou, Huanggang, and Sichuan. TCL Environmental Technology has qualifications for the disposal of waste electrical and electronic products and hazardous waste, and it can handle and dispose of 4.69 million units/year of waste electrical and electronic products and 220,000 tons/year of industrial hazardous waste. Adhering to the vision and mission of "promoting resource recycling and harmonious coexistence of human and nature through technology" as well as the "customercentered and technology-driven" business philosophy, TCL Environmental Technology provides comprehensive hazardous waste disposal services for enterprises in the semiconductor panel display, chip, PCB integrated circuit, new energy battery, high-end pharmaceutical, chemical, and automobile manufacturing industries. It organically combines resource utilization and harmless disposal with industry-leading technology, equipment, and environmental solutions.



Getech Technology Co., Ltd. was established in 2018 as a result of TCL's strategic incubation, and has now emerged as a leading industrial internet enterprise in China. Internally, it supports TCL Group's transformation into a world-class digital enterprise group. Externally, it provides industrial internet products and services to Chinese manufacturing companies. Getech adheres to the research and development direction of "targeting at the production site" and uses standardized platforms, industrial applications, and industry solutions to promote the transformation and upgrading of Chinese manufacturing. On the strength of its core technological capabilities, such as AI, cloud computing, and big data to drive the intelligent upgrade of equipment and edge control hardware through software and algorithms, the company has developed a software and hardware integrated industrial intelligent product system. The software covers six major areas: production control, equipment management, quality management, energy and carbon management, digital supply chain, and digital marketing. It provides two types of software and hardware integrated products of industrial control intelligence and hardware intelligence, as well as core technology platforms such as AI, big data, loT, and aPaaS application development. Among them, the core product "Getech industrial application intelligent platform" independently developed by Getech was selected and certified as a "cross-industry and cross-domain industrial Internet platform" by the Ministry of Industry and Information Technology of the People's Republic of China in 2022. In the same year, Getech was rated as one of the most influential entrepreneurial companies in China by Fortune Magazine. It has also been recognized as a future digital industrial leader in China by IDC in 2023. Supported by Getech platform, Getech has provided products and solutions for more than 20 industries, including semiconductor, new energy, 3C electronics, home appliances, petroleum and petrochemicals, aviation and aerospace, empowering the digital and intelligent transformation of many industries.



TCL Photovoltaic Technology focuses on residential, industrial, and commercial distributed photovoltaics, and overseas business. As a one-stop service provider for residential photovoltaic new energy, it is committed to building safer, more efficient, and more economical industrial and commercial photovoltaic power stations, and establishing a smart energy management system and a smart clean energy platform, with an aim to grow into a leader in the clean energy industry.



TCL Industrial Park was established in 2017 and is a professional service provider for industrial park investment, development, operation, and management. With the vision of "becoming a leading industrial park investor and service provider", it is committed to providing professional services to customers. TCL Industrial Park focuses on TCL's three core industries: intelligent terminal, semiconductor display, new energy photovoltaics and semiconductor materials, and collaborates with the upstream and downstream enterprises of the industrial chain to build an industrial ecosystem. With projects located in Beijing, Shanghai, Guangzhou, Shenzhen, Tianjin, Suzhou, Wuhan, Hefei, Huizhou, and other cities, its businesses cover the Guangdong-Hong Kong-Macao Greater Bay Area, Yangtze River Delta, and the Beijing-Tianjin-Hebei region. The industrial carriers include integrated industry-city community complexes, business R&D parks, high-standard warehousing and logistics parks, and smart manufacturing parks. Services include industrial park development and management, large-scale hard-tech industrial plant construction, industry-city community operation and management, and industrial logistics asset management.



Founded in 1997, TCL Financial Services, relying on industrial business scenarios, cooperates with banks and other high-quality financial partners to provide financial support, as well as operation and risk management support for the core main business and
production of the Group by fully leveraging its advantages in industrial finance. It also provides quality financial services to partners in the industrial ecosystem and inclusive financial services to small and micro customers, aiming to become a supplier of financial services for small and micro enterprises and families in the industrial ecosystem.



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# **D3** TCL INDUSTRIES' REFLECTION ON CARBON NEUTRALITY





Looking back, climate change, as a global problem, poses increasingly severe challenges and unprecedented impacts on humanity. There is also an ongoing process of deepening understanding of it among people. Since the Industrial Revolution, the high-carbon growth model, mainly relying on fossil energy, has greatly changed the natural environment on which human survival depends . The increasingly frequent extreme weather events have various impacts on our production and daily lives. Only by respecting the laws of nature can humanity achieve harmonious coexistence with nature through green and low-carbon development.

China is still faced with multiple tasks such as economic development, improving people's livelihoods, pollution control, and clean energy transition, which requires the seeking of an optimal policy balance in development. This also requires us to follow the trend of the new round of technological revolution and industrial transformation, handle the relationships between development and emission reduction, overall and local, short term and long term, government and market, domestic and international, and accelerate the transformation of production modes and lifestyles to achieve the "dualcarbon" goals.

In response to the global efforts to address climate change, China's goal of "carbon peaking" and "carbon neutrality" continues to be progressed, providing unprecedented opportunities for enterprises to achieve growth, create corporate value, and contribute to society. TCL, with a history of 43 years, has developed and grown with the care and support from the country, and has achieved its current scale and capacity. Therefore, we must closely connect our development with the social environment and fully understand the connotation and extension of the Chinese path to modernization. We should actively assume responsibilities in economic development, improving people's livelihoods, and promoting innovation.



TCL Industries adheres to the green development philosophy of "resonating with the times, sharing and collaborating, co-existing harmoniously with nature". We comprehensively build our low-carbon operating capabilities to address climate change, take the initiative to leverage our technological innovation advantages, actively implement energy-saving measures, and increase the use of clean energy. Moreover, we incorporate green concepts and practices throughout the entire chain of product design, supply chain, manufacturing, packaging, logistics, sales and services, and recycling to minimize environmental impacts. With an ecological strategic goal of "building a healthy and sustainable green cooperative ecosystem," TCL Industries works together with partners to accelerate climate transformation and development. We will endeavor to achieve carbon peaking by 2030 and carbon neutrality in operations by 2050, as carbon neutrality is a cause that will bring long-term benefits and worth our all-out efforts.

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# 04 ARESOLUTE STRATEGY FOR CARBON-FOCUSED FUTURE



### **DUAL-CARBON STRATEGIC GOALS**

On July 6, 2023, TCL Group successfully held the TCL Global Ecological Partner Conference (GPC2023) in Wuhan, where TCL Industries released the Carbon Neutrality White Paper of TCL Industries for the first time. It committed to achieving carbon peaking no later than 2030 and carbon neutrality no later than 2050, which are the '2030 and 2050' TCL dual-carbon strategic goals. Reaffirming the TCL Green Global Initiative, TCL makes efforts to implement China's "3060" dual-carbon goals and contributes to achieve the global temperature control of 1.5°C. To achieve this grand goal, the Company's CSR Climate Change Response Working Group has formulated a clear "three-step plan" to ensure the steady and orderly progress of the "dual-carbon" work.









Fig. 2 TCL Industries Releasing the First Carbon Neutrality White Paper and "2030 and 2050" Dual Carbon Goals

#### 2023 Annual Report on Carbon Neutrality of TCL Industries

## 2023 - 2030

#### **Carbon peaking** Build capacity and reduce carbon emission

- Formulate and commit to carbon emission reduction targets and visions in the context of dual carbon, benchmarking the national dual carbon plan and other companies' emission reduction targets
- Plan carbon emission reduction plans and action plans under the background of carbon peaking, such as improving the efficiency of core products in various industries, reducing emissions in green supply chains, and building energy management centers.
- Implement various emission reduction tasks in accordance with the plans.

## 2031-2050

#### **Carbon neutrality** Overall Capacity Building, Continual Carbon Reduction

- Set continuous carbon emission reduction targets under the background of carbon neutralit
- Plan carbon emission reduction plans and
- Implement various carbon emission reduction tasks according to the plans

## 2050

### Zero-carbon products

- Achieve continuous operation and maintenance for carbon neutrality of TCL Industries
- All products achieve zero carbon emissions throughout the entire life cycle

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## SYNERGISTIC CARBON REDUCTION PATH **IN INNER, MIDDLE, AND OUTER CIRCLES**

From the three levels of "inner, middle, and outer circles," TCL constructs a synergistic carbon reduction path that connects our operations, green products, and ecosystem.

#### In the inner circle

We gives full play to our technological innovation strengths. Through innovative technologies and energy-saving transformation, we rationally utilize resources and promote energy conservation and carbon reduction in our manufacturing bases and operating sites.

#### In the middle circle

We start from the entire product lifecycle, focus on the long-term strategy of "brand-led value, global efficiency management, technology-driven, and vitality first", and bring "fullscenario, full-category, and full-connection" green and low-carbon products and services to global users.

#### In the outer circle

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We play the leading role of the industrial chain in accordance with the strategy of responding to climate change, and work with the society to actively promote the construction of a net zero ecosystem. Overall, TCL Industries regards "building a healthy and sustainable green cooperative ecosystem" as an important goal of its ecological strategy. We will always collaborate with various partners to accelerate climate transformation and development, thus bolstering both China and the world in moving towards a zero-carbon future.

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05 DILIGENT CULTIVATION AND INITIAL ACHIEVEMENT





TCL Industries is currently carrying out the "dual-carbon" work in an orderly way, and is gradually improving the Company's greenhouse gas emissions verification system. We are strengthening lowcarbon technology innovation and low-carbon infrastructure construction, increasing the use of clean energy, and improving the full lifecycle management of green products, which lay a solid foundation for the Company to achieve carbon peaking and carbon neutrality.

### **ACHIEVEMENTS**

#### **CARBON VERIFICATION & CARBON EMISSION REDUCTION**

TCL Industries has set 2021 as the base year for greenhouse gas emission and would complete the greenhouse gas inventory work annually from 2021. In 2023, the Company conducted carbon accounting for our industrial headquarters, domestic and foreign marketing centers, and 43 factories, output the accounting data of greenhouse gas emission, completed the greenhouse gas emission verification for the eight major product groups, and obtained corresponding third-party certificates through SGS(appendix) verification, further enhancing the accuracy of industrial greenhouse gas emission management. Among them, two core factories have completed energy audits and output emission reduction reports and plans with the assistance of third-party institutions. Owing to internal energy diagnosis and energy-saving technological transformation, by the end of 2023, TCL Industries' operational (Scope 1 + Scope 2) carbon emissions amounted to 825,800 tons, compared to 2021, the intensity of greenhouse gas emissions reduced from 723.76 tons CO<sub>2</sub>e(appendix)/RMB 100 million to 686.32 tons CO<sub>2</sub>e/RMB 100 million, a decrease of 5.17%. The intensity of greenhouse gas emissions for the three core industries of electronics, air conditioners, and smart home appliances (Hefei Household Appliances) is 524.44 tons CO<sub>2</sub>e/100 million, posing a decrease of 7.7%.



Fig. 5 TCL Industries' CO<sub>2</sub> Intensity Emission Trend Chart (tons CO<sub>2</sub>e/RMB100 million)

In 2023, TCL Industries' operational carbon emission intensity (carbon emission intensity=current total carbon emissions/ current revenue of TCL Industries) was 686.32 tons CO2e/RMB 100 million, and it has undergone comprehensive scientific verification by SGS. The main components are as follows:

### 825,800 tons in total



Fig. 6 CO<sub>2</sub> Emissions of Scope 1 and Scope 2 of TCL Industries

Significant achievements have been made in the green manufacturing transformation and upgrading of various industries. Through multiple energy-saving renovation projects, the Company has achieved a power saving of 16,510,600 kWh, avoiding approximately 9,400 tons of carbon emissions. Notable results have also been made in adjusting the energy structure. A total of 64.51 MW of distributed photovoltaic power generation equipment was installed, and approximately 87,570,000 kWh of green electricity was consumed, achieving a total CO<sub>2</sub> reduction of over 49,900 tons, which is equivalent to the annual CO<sub>2</sub> absorption of approximately 43,200 trees.



In the past year, TCL Industries has cultivated more than one hundred professionals specialized in carbon accounting, unified carbon accounting mechanism, and continued to build carbon accounting capabilities. Furthermore, we have also conducted extended management such as carbon verification for the top 50 suppliers.

Note 1: The scope of carbon verification includes Scope 1, Scope 2, and Scope 3

#### **MANAGEMENT SYSTEM CERTIFICATION**

We continue to optimize internal processes, identify potential environmental, social, and governance risks and challenges, and develop more scientific, systematic, and effective response measures, making significant progress in various dimensions. By the end of this fiscal year, most of the subsidiary companies under the Group engaged in production have obtained certifications such as ISO 14001 environmental management system, ISO 50001 energy management system, and ISO 14064 greenhouse gas management system.

#### Green and Low-Carbon Management System Certifications Obtained by TCL Industries and Subsidiary Factories

Subject/Product/Brand	System Type	System Name
TCL Household Electric Appliance (Hefei) Co., Ltd.	Environmental Management System	ISO14001
TCL King Electrical Appliances(Huizhou) Co., Ltd.		
TCL Photoelectric Technology (Huizhou) Co., Ltd.		
TCL Intelligent ElectricalAppliances (Vietnam) Co., Ltd.		
THOMSON TELEVISIONES DE MEXICO SA DE CV		
Huizhou Tcl Mobile Communication Co., Ltd.		
TCL Air-Conditioner (Zhongshan) Co., Ltd.		
GD TCL Intelligent Heating &Ventilating Equipment Co., Ltd.		
TCL Air Conditioner(Jiujiang) Co., Ltd.		
TCL AIR CONDITIONER(Wuhan) Co., Ltd.		
Shenzhen Getech Technology Co., Ltd.		
Tonly Technology Holdings Limited		
Zhongkai Branch of Tonly Technology Holdings Limited		
Tongqiao Branch of Tonly Technology Holdings Limited		
Chenjiang Branch of Tonly Technology Holdings Limited		

Subject/Product/Brand	System	
Tonly Electronics Technology (Guangxi) Limited		
Huizhou Luda Intelligent Technology Co., Ltd.		
Tonly Electronics Technology (Vietnam) Limited		
Vietnam Pully Electronic Technology Co., Ltd		
Huizhou Tonly Electronics Co., Ltd.		
Huizhou TCL Environmental Technology Co., Ltd.		
TCL-AOBO Environmental Protection and Development Co., Ltd.	Environmen	
Shantou TCL Deqing Environmental Protection Development Co.,Ltd.	manageme	
Huanggang TCL Environmental Technology Co., Ltd.		
Guangdong TCL Ruifeng Environmental Protection Technology Co., Ltd.		
Shenzhen TCL Environmental Technology Co., Ltd.		
Guangdong Homa Refrigerator Co., Ltd.		
TCL Household Electric Appliance (Hefei) Co., Ltd.		
TCL King Electrical Appliances(Huizhou) Co., Ltd.		
Tonly Technology Holdings Limited	Energy	
Zhongkai Branch of Tonly Technology Holdings Limited	Managemei	
Huizhou TCL Mobile Communication Co., Ltd.		
TCL Air-Conditioner (Zhongshan) Co., Ltd.	Environme Label certi	
TCL Household Electric Appliance (Hefei) Co., Ltd.		
TCL King Electrical Appliances(Huizhou) Co., Ltd.		
TCL Photoelectric Technology (Huizhou) Co., Ltd.	Greenhou	
TCL Intelligent Electrical Appliances (Vietnam) Co., Ltd.	emission	

Huizhou TCL Mobile Communication Co., Ltd.

THOMSON TELEVISIONES DE MEXICO SA DE CV

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#### System Name

ntal ent System

ISO14001

ent System	ISO50001
iental	Environmental
ouse gas n system	ISO14064

Subject/Product/Brand	System Type	System Name
TCL Air-Conditioner (Zhongshan) Co., Ltd.	Greenhouse gas emission system	
GD TCL Intelligent Heating &Ventilating Equipment Co., Ltd.		
TCL Air Conditioner(Jiujiang) Co., Ltd.		
TCL AIR CONDITIONER(Wuhan) Co., Ltd.		
TCL Household Electric Appliance (Hefei) Co., Ltd.		15014064
TCL King Electrical Appliances(Huizhou) Co., Ltd.		15014064
Huizhou Tcl Mobile Communication Co., Ltd.		
TCL Air-Conditioner (Zhongshan) Co., Ltd.		
Tonly Technology Holdings Limited		
Shenzhen Getech Technology Co., Ltd.		
Shenzhen Getech Technology Co., Ltd.	Assessment Declaration for Carbon Management Software	Basis of assessment: ISO14064, Greenhouse Gas Protocol, IPCC National Inventory Guidelines, National Development and Reform Commission's Accounting and Reporting Guidelines for Greenhouse Gas Emissions for 24 Industries.

## **MAIN HONORS**

#### **ESG RATING IMPROVEMENT**

TCL Industries has been committed to improving its corporate governance structure for social responsibility. By establishing sound management mechanisms and processes, actively communicating and collaborating with stakeholders, and continuously strengthening its responsibility in environmental and social aspects, we aim to achieve comprehensive, balanced, and sustainable development.

In 2023, thanks to the formulation of TCL Industries' carbon peaking and carbon neutrality strategy, extended control and implementation of climate actions by suppliers, information disclosure and publicity, we have achieved comprehensive improvement in CATI (appendix) and CITI (appendix) scores and rankings. At the same time, TCL Industries has gained international attention, including from the WGDO (World Green Design Organization), for our innovative initiatives such as the release of a carbon neutrality white paper in 2023, the establishment of a carbon footprint system standard, and the enhancement of green design system capabilities. Progress was also made in ESG ratings in 2023.

#### **ESG RATING RESULTS OF TCL INDUSTRIES AND SUBSIDIARY FACTORIES IN 2023**

ESG Rating	Rating Subject
CATI	TCL Industries
СІТІ	TCL Industries
Sustainalytics	TCL Electronics
SynTao Green Finance	TCL Electronics
EcoVadis	TCL Communication
Ul2799 Zero Waste to Landfill	Tonly Technology
Wind	TCL Smart Home



Most Recent Rating Results
25 points
Ranking in the appliance industry: 10/38
Ranking in the IT/ICT industry: 33/107
26 points
Ranking in the appliance industry 4/37
Ranking in the IT/ICT industry: 19/69
19.2 points
Low Risk
A-level
Sustainable Development EcoVadis(Gold)
Platinum
Level A
Durable consumer goods
Ranking of overall score in the industry : 10/189

TCL Industries is committed to better managing its greenhouse gas emissions and taking measures to mitigate its impact on climate change. To achieve this goal, our core factories have referred to the CDP (appendix) questionnaire and have taken a comprehensive approach to improve their energy and low-carbon management framework. They have focused on four dimensions: Governance, Strategy, Risk Management, Indicators and Targets. TCL King, TCL Communication, and Tonly Technology, three star factories under TCL Industries, have actively participated in disclosing climate change questionnaires through the CDP. Tonly Technology achieved a B- level in both 2022 and 2023 for the "CDP Rating". TCL King improved its rating from a C level in 2022 to a B- level in 2023. TCL Communication received a C level in both 2022 and 2023 for the "CDP Rating".

#### ) International key green and low-carbon awards

TCL Industries aligns with the domestic and international trends of green, low-carbon, and environmental development and actively participates in the selection of international key green and low-carbon awards.

WGDO (World Green Design Organisation) Granting TCL Industries "2023 Green Design International Contribution Award

CHN Energy Institute of Energy Research and International Energy Network Granting TCL Photovoltaic Technology "Annual Top 10 Brands of Commercial Photovoltaic Systems"

International Key Green and Low-Carbon Awards of TCL Industries and Subsidiary Factories in 2023

## As of the end of 2023, TCL Industries had obtained green certifications for

our sustainable and eco-friendly ecosystem. These included 1 green supply chain certification, 9 green factory certifications, and 40 green design product certifications.

Ministry of Industry and Information Technology of the People's Republic of China Granting TCL Industries "Fourth Batch of Green Design Demonstration Enterprises for Industrial Products"

Ministry of Industry and Information Technology of the People's Republic of China Granting TCL Home Appliances(Hefei)

6 green design products 2 green factories

(3 washing machines + 2 refrigerators)





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# **OG** MULTIPLE MEASURES AND STRATEGIC PLANNING





#### CARBON MANAGEMENT WITHIN THE ORGANIZATION, **REDUCING CARBON EMISSIONS OF SCOPE 1 AND SCOPE 2**

To systematically progress the dual carbon efforts, we have established a CSR Climate Change Response Working Group to work out a scientifically-based decarbonization roadmap. Relying on innovative technologies and prioritizing energy-saving technological improvements, we are continuously advancing the research and development of green manufacturing processes, as well as energy-saving transformations of infrastructure and general facilities. Through energy management, water resource management, pollutant management, waste management, and green business operations internally, we are reducing carbon emissions of Scope 1 and Scope 2.

#### **ENERGY MANAGEMENT**

TCL Industries strictly adheres to the Environmental Protection Law of the People's Republic of China and has developed internal policies such as the Energy Use Monitoring and Management Measures, Energy Management Regulations, and Key Equipment Energy Consumption Management Measures. These policies clearly define the responsibilities of each department and energy consumption targets. Regular energy supervision and inspections are conducted to continually improve the energy management system in response to increasingly severe environmental challenges.

We have developed and implemented long-term dual carbon plans. By the means of utilizing an energy management system to collect, analyze, and control energy consumption data of energyconsuming equipment, upgrading high-energyconsuming equipment, eliminating machines with high energy consumption and low efficiency and replacing them with energy-saving devices such as servo motors and LED lights, and introducing clean energy sources such as solar power, we aim to effectively control greenhouse gas emissions.



#### **ENABLING INTELLIGENT MANAGEMENT OF CARBON THROUGH DIGITAL INTELLIGENT TRANSFORMATION:**

#### Case: Getech empowering TCL Air Conditioner with intelligent management of energy and carbon

By establishing an intelligent carbon management system, identifying and optimizing energy-saving scenarios, implementing a series of energy-saving and emission reduction measures, and improving management practices, TCL Air Conditioner has achieved a 10% reduction in electricity consumption, approximately 15% reduction in total energy consumption and carbon emissions. This project has also been selected as an excellent case in energy-saving and carbon reduction in China's industrial Internet by IDC. Getech's carbon peaking and carbon neutrality case for TCL Air Conditioner was selected as a representative case of "Integrating New Type Carbon Management Platform with Energy Management to Achieve Comprehensive Energy Savings through Management and Technology" in the report - IDC PeerScape: Excellent Practices in Energy Saving and Carbon Reduction in China's Industrial Internet. Additionally,

Getech's carbon management platform received a perfect score in all 5 dimensions in IDC's China Carbon Management Platform Technology Evaluation 2023, highlighting its core strengths in the field of carbon management.



#### ACHIEVING OPERATIONAL ENERGY SAVING AND CARBON REDUCTION THROUGH NEW ENERGY-SAVING TECHNOLOGY:

Case: Energy efficiency improvement through the adoption of a new degreasing furnace



TCL Air Conditioner has implemented a technology renovation project for degreasing furnaces. With feedback from suppliers' technical exchanges, a dual-channel horizontal degreasing furnace has been adopted. The production efficiency of the new furnace is twice that of the original vertical furnace, thus reducing the consumption of liquefied petroleum gas and electricity. This project achieves annual savings of over 48% in liquefied petroleum gas costs and over 13% in electricity costs, effectively reducing energy consumption and improving equipment efficiency.

#### • Case: Air compressor renovation of Hefei Household Appliances

The air compressors were replaced with two-stage compression lowenergy-consuming equipment. In the first phase, 7 units were replaced, resulting in energy savings of 199 kWh and an annual electricity savings of 1.39 million kWh. The replacements have been put into service. In the second phase, out of a total of 5 air compressors, 2 have already been replaced, while the remaining 3 are in normal service and scheduled for replacement. For the injection molding machines, a total of 4 units have undergone technological upgrades, with the remaining 2 units in standby and no replacement requirements. For the refrigerators, a total of 6 units are being used, with 3 already renovated and the remaining 3 awaiting renovation. After the completion of the renovation, it is estimated that the annual electricity savings will be around 1.1 million kWh, resulting in a cost savings of approximately RMB 886,000.



#### CARBON REDUCTION AND EMISSION REDUCTION ACHIEVED THROUGH THE USE OF CLEAN ENERGY SUCH AS PHOTOVOLTAICS:

#### Case: Carbon emissions reduction achieved through the use of clean energy such as photovoltaics

TCL Industries attaches great importance to the continuous investment and application of renewable energy. Our 12 factories worldwide have successfully implemented distributed photovoltaic power generation projects, with a total installed capacity of 64.51 MW. This provides reliable and environmentally friendly green energy for the operation of the factories. Compared to the year 2022, TCL Industries has increased the scale in distributed photovoltaic power generation projects by 12.33 MW. Through the implementation of these distributed photovoltaic power generation projects, TCL Industries has achieved a total reduction of over 49,900 tons of carbon dioxide emissions, equivalent to the annual carbon dioxide absorption of approximately 43,200 trees.



## Case: Optimizing operations and maintenance techniques to improve photovoltaic conversion efficiency



The Wuhan Air Conditioner Project, as a canopy and intelligent cleaning demonstration project, has installed 11 intelligent cleaning robots. This not only enhances the overall intelligence of the power station, ensuring the safe operation of the power station, but also increases the generation hours by nearly 8% and achieves an annual increase of nearly 68,000 kWh in electricity generation. This is equivalent to reducing carbon dioxide emissions by approximately 38 tons.

#### WATER RESOURCE MANAGEMENT



TCL Industries has developed and continuously improved the Water Resource Management Regulations and Water and Electricity Conservation Management Regulations, and implemented standardized and regulated measures for the use and management of production and domestic water in the factory areas. We utilize low-pressure water supply technology along with real-time monitoring through intelligent meters. Additionally, we are continuously promoting the construction of a recycled water system, such as the use of recycled water for Utube cleaning and energy-saving water circulation in the cooling system of power room air compressors. This enables effective monitoring and rational utilization of water resources.

#### • Case: Upgrading the use of recycled water

In response to the issue of heavy water consumption and wasteful direct discharge from washing machine testing, TCL Industries' subsidiary TCL Smart Home, without compromising existing functions and usage conditions, implemented water resource recycling and utilization in the already operational cooling tower. By adding supply water pipelines and utilizing recycled water for flushing, they are able to improve water resource efficiency.

#### **POLLUTANT MANAGEMENT**

We strictly comply with the environmental protection requirements of our operational locations. Through internal regulations such as the Wastewater Management System, Emissions Management System, and Regulations on Sewage, Emissions, and Noise Control, wecarefully manage the generation, recovery, and compliant disposal of pollutants. Continuous environmental monitoring of factors such as emissions, wastewater, and noise is conducted in all factories to ensure compliance with emission standards and protect the surrounding environment.

TCL Industries has established a pollution management system and keep optimizing it to ensure that business activities comply with environmental standards. We actively enhance the waste management system and strictly follow the processes of classification, collection, transportation, and disposal to minimize the negative impact of business operations on the environment.





Regular cleaning of sewage and stormwater pipelines, timely extraction and pressure filtration of sludge, and repair or reconstruction of aging and damaged pipe networks are carried out to ensure the normal and effective operation of wastewater treatment equipment:

\_\_\_\_\_ Strict separation of sewage pipelines from stormwater pipelines is carried out to achieve the separation of rainwater and wastewater. Sewage treatment facilities and equipment are installed to ensure that sewage is discharged after effective treatment;

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Emergency response plans are developed for wastewater discharge accidents and emergency drills are carried out to prepare for and respond to unforeseen situations;

Domestic wastewater is discharged through municipal networks, while industrial wastewater is transported and disposed of by qualified professional institutions through outsourcing.

The equipment department conducts regular inspections and maintenance of the environmental protection facilities and equipment for waste gas. They timely replace old machines and add UV photolysis equipment, activated carbon adsorption equipment, and other devices to ensure that the waste gas is treated and discharged in an organized manner; \_\_\_\_\_

Emergency response plans are developed for waste gas leakage and discharge accidents and emergency drills are carried out to prepare for and respond to unforeseen situations; \_\_\_\_\_

Process improvements are conducted to reduce the use of spraying and screen printing processes, resulting in reduced waste gas emissions during the production process;

..... The waste gas is centrally collected through fan ducts, gas hoods, and other means. It is equipped with purification and environmental protection equipment for degreasing, welding fumes, etc. After plasma purification, it is discharged at high altitude to ensure compliant emissions;

Relevant training on the operation of waste gas purification facilities is carried out and the requirements for waste gas treatment and environmental management is promoted to employees; \_\_\_\_\_



#### **WASTE MANAGEMENT**

TCL Industries, in accordance with significant environmental laws and regulations such as the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution Caused by Solid Waste, has developed management documents including the Methods for Controlling and Treating Solid and Liquid Waste Pollution, Management System for Hazardous Waste Warehouses, and Management Regulations for Waste Disposal. These documents aim to enhance waste classification, storage, transfer, and disposal management processes, ensuring that our waste disposal practices comply with national and local standards.

#### GENERAL WASTE DISPOSAL

For general waste, we classify and recycle or dispose of it according to its category:



## Waste packaging materials qualified third-party recycling companies for proper disposal; Household waste on a regular basis;



#### **Kitchen waste**

The catering contractor is responsible for the collection, transfer, and disposal of kitchen waste.

#### R HAZARDOUS WASTE DISPOSAL

Based on regularly updated Hazardous Waste List, we identify, classify, and handle various types of hazardous waste in compliance, thus avoiding potential environmental pollution risks.



Uniform collection

#### Secure storage

Hazardous waste collection bins are set We set up a hazardous waste up at designated locations. Hazardous chemicals such as waste paint liquids, paint residues, and oily wastewater are collected uniformly and regularly transferred to specialized warehouses for proper storage;

#### warehouse/hazardous waste temporary storage room for storing hazardous waste. We assign special personnel to manage the entry and exit of hazardous waste;



We maximize recycling efforts for waste packaging materials. For those that cannot be recycled, we categorize them into paper, plastic, and EPS (Expanded Polystyrene) and then hand them over to

#### Disposed electronic products and non-recyclable industrial waste

These are entrusted to qualified third-party recycling companies for proper disposal;

We lease sanitary bins from the municipal sanitation authorities for storage, collection and disposal



#### **Compliant disposal**

In accordance with environmental regulations, we sign hazardous waste disposal contracts and entrust qualified third-party environmental companies with the responsibility of transportation and disposal. This ensures that all hazardous waste is properly disposed of.

#### **GREEN BUSINESS OPERATIONS**



TCL Industries takes sustainable development as our responsibility and green culture as the guiding ideology of enterprise management, which are practiced in various aspects of our daily operations. We always take into account environmental protection and green operation in every detail of our business management. This is reflected in the Company's energy-saving and emission reduction measures, such as water and electricity conservation, paperless offices, green transportation, green procurement, and green lighting.

#### **EXAMPLES OF TCL INDUSTRIES' GREEN BUSINESS OPERATIONS**



#### Paperless office

TCL Industries employs the OA system, which is used to send and receive documents and share information resources and convert traditional paper documents into digital form, saving a lot of paper, reducing office costs, achieving office automation, and improving work efficiency and management level.

TCL Industries uses the PLM collaborative management platform. With this platform, important files are stored in the cloud for management and control. It supports multiple people to collaborate and edit documents simultaneously, as well as document sharing within and outside the team, reducing file transfer and processing time in traditional office work, thereby achieving the goal of cost savings, cost control, and efficiency enhancement.

TCL Industries advocates employees to save paper and eliminate waste. We encourage double-sided printing, reasonable use of paper, reuse of non-sensitive single-sided paper that has been printed incorrectly or has expired, and paper saving for green office.



#### Save electricity

TCL Industries strengthens the management of air conditioner usage: Strictly implement the national regulations on indoor temperature control of air conditioner, and set the cooling control temperature of air conditioner to no less than 26 °C.

TCL Industries reduces energy consumption of office equipment: Adopt energy-saving mode when using office equipment such as printers, copiers, and shredders; During lunch break, all computers are automatically set to sleep in the background; Arrange daily night security patrols to check the unplugging of office equipment plugs, cut off all power sources, and eliminate standby consumption.



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Lighting management

The lighting of each office and production building of the Company is designed in strict accordance with the GB/T 50034 Architectural Lighting Design Standard. According to the needs of different places, suitable lamps and light sources are selected, and appropriate lighting intensity and beam angle are determined to ensure that the internal and external lighting of the building provides good visual effects and comfort.

TCL Industries reduces the use of lighting equipment and strengthens control measures. 100% use energy-saving lighting fixtures, introduce intelligent equipment, deploy lighting control systems, achieve remote monitoring and control of lighting, reduce lighting waste, and fully utilize natural lighting to reduce energy consumption.

#### **Green travel**

TCL Industries actively publicizes the concept of green travel in employees and encourage green commuting. We provide new energy commuting buses for employees to reduce fuel emissions while bringing convenience to them. According to statistics, the proportion of employees who adopt green commuting methods in Tonly Corporation under TCL Industries is as high as 82%, 11% of employees commute by car and 7% of employees commute by motorcycle. At present, the company is increasing the number of charging piles in the park to encourage employees to use new energy vehicles and practice green and low-carbon travel.



#### PRODUCT LIFECYCLE CARBON MANAGEMENT, REDUCING CARBON EMISSION OF SCOPE 3

Green development revitalizes the environment. TCL Industries adheres to the concept of green development and implements carbon management throughout the entire lifecycle of its products, encompassing green design, green supply chain, green packaging, green recycling, and green logistics. The Company leverages digital technology to enhance the efficiency of our carbon management system. Additionally, TCL Industries actively selects environmentally-friendly materials, launches energy-saving and durable products, optimizes product packaging, and conveys the value of green consumption to customers, collectively contributing to the Earth's sustainable development.

#### Product Lifecycle Management



#### **GREEN AND ENERGY-SAVING DESIGN**

During the product design stage, TCL Industries prioritizes energy efficiency and energy-saving design. We take into account factors such as resource efficiency, resource and energy conservation, and green environmental characteristics. We actively reduce the use of non-environmentally friendly processes and adopts clean production technology and environmental processes to comprehensively minimize resource and energy waste, as well as the negative environmental impacts associated with our products, which are effective in reducing carbon emissions.

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#### Lightweight design

By combining high-end, mid-low end positioning with mobile phones, tablets, and other products, TCL Industries employs an integrated design solution to effectively reduce the thickness of the whole device, achieving reductions in packaging size and product weight.

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#### **Optimum energy efficiency**

TCL Industries continuously optimizes product design, utilizing advanced energy-saving technologies and efficient energy utilization schemes. Through smart control systems and algorithms, products are able to autonomously manage energy consumption while optimizing performance. This effort translates into lower energy usage and better energy efficiency without compromising performance requirements.

We design and develop products that adhere to global energy efficiency policies and regulations. The energy efficiency index of all products within TCL Industries' smart screen product line generally meets or exceeds the national energy efficiency standard 2, with passive standby power less than 0.5 W, providing customers with more energy-efficient product options.

We have developed low-power algorithms specifically for SMD panel-type products. These algorithms enable the devices to intelligently identify idle periods and activate functions such as automatic sleep mode and power-saving mode, thus effectively extending the battery life and helping save on energy costs.

In pursuit of better energy efficiency in products, we have established a laboratory for the research and development of AI energy-saving cutting-edge technologies in collaboration with our partners. Taking the example of the TCL Little Blue Wing P7 fresh air conditioner, released in 2023, it effectively reduces energy consumption in air conditioning temperature adjustment scenarios through AI energy-saving algorithms. Additionally, lightweight MCURISC-V operators are utilized for model training and optimization, achieving an annual energy consumption efficiency that far exceeds the national standard by 10% and achieving energy saving rates of up to 40%.

#### **Clean production processes**

We continuously promote the use of clean production processes according to the Guidance Catalog for Industrial Structure Adjustment, continuously improving the injection molding process used in product processing, thereby eliminating environmental pollution caused by traditional spraying processes.

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#### Enhanced autonomous energy conservation control

The TCL Air Conditioner of TCL Industries, leveraging heat pump operation energy-saving technology, has achieved comprehensive energy-saving control of great thermal inertial load identification and self-optimizing heat pump refrigerant/water joint control. The related energy-saving technologies have reached international leading levels as determined by an expert group at a technology appraisal meeting organized by the China National Light Industry Council. More notably, the Company's split-type invert room air conditioner has obtained the CVC6002-2022 CVC Mark Certification Implementation Rules certificate.

#### • Case: Practicing green design and winning the "2023 Green Design International Contribution Award"



Certificate and Medal for the "2023 Green Design International Contribution Award".

In October 2023, TCL Industries Holdings was awarded the "2023 Green Design International Contribution Award" certificate and medal at the Green Transformation and Climate Change Dialogue held by World Green Design Organization (WGDO) during the Green Design and Green Manufacturing Forum held in Berlin.

As a subsidiary of TCL Industries Holdings, TCL Electronics actively incorporates green design principles into its product development. For instance, in the field of green design for TVs, TCL Electronics has implemented the following measures:

1. In the area of image quality, research has been conducted and algorithms such as hybrid dimming, dual-mode driving, and super dynamic light control have been introduced. By utilizing the electro-optical conversion efficiency characteristics of LCD backlight LEDs, it allows the backlight to operate at the efficient state of the LED as much as possible in different

operating conditions, thereby improving the luminous efficiency by 20%.

2. In the area of optics, diffusion plates of green materials have been researched and introduced. a) For ordinary diffusion plates, the use of recycled materials (10%-20%) reduces material loss while meeting the parameters of optical brightness and uniformity. b) By introducing gas during the production of diffusion plates, the transmittance of the diffusion plate is increased, reducing the material consumption per unit volume by more than 10%.

3. In the area of optics, lens of high luminous efficiency technology solution has been researched and introduced. Through lens optical design and the design of other optical components, TCL Electronics has achieved the development of wide-angle optical lenses and high-efficiency backlight module technology, reducing the usage of LED chips and light bars, and achieving one Light bar backlight modules, thereby resulting in significant savings of key light source components such as LED and PCB substrate materials.

4. In the area of optics, multilayer reflection polarizing coating of high luminous efficiency has been researched and introduced. By using a multilayer reflection polarizing coating composed of PEN birefringent polymer and PET, the Pcomponent of light passes through while the S-component is reflected, and the light is converted back into P and S components in backlight reflection. Ultimately, by improving the

polarization state of light, the luminous efficiency is increased by more than 30%, reducing backlight energy consumption by 30% for the same module.

5. In the area of electronics, graphene heat sinks have been researched and introduced to replace traditional aluminum heat sinks. The new materials significantly reduces emissions during the manufacturing of aluminum products.

6. In the area of electronics, customized SOC (System-on-Chip) mass production has been researched and introduced. By customizing the functionality of SOC, unnecessary functions in televisions are reduced, which reduces the current required by the SOC and achieves energy savings.

7. In the area of electronics, perceptive technology has been researched and introduced, which allows automatic adjustment of screen brightness and volume based on the distance between the television and the viewer via cameras or millimeter-wave detection, so as to achieve energy savings. With continuous breakthroughs and innovations in the field of environmental protection and green lowcarbon technologies, TCL King Electrical Appliances(Huizhou) Co., Ltd. has been awarded the Low-carbon Product Supplier Certification by the China Electronic Energy Saving Technology Association, and the Smart Screen product 65V2D has been awarded the Product Carbon Label Three-Star Rating, among many other honors.



Smart Screen product 65V2D Received the Product Carbon Label Three-Star Rating

#### Case: TCL Industries included in the China "Industrial Product Green Design Demonstration Enterprise List" and the "Digital Navigation" demonstration list

On October 28, 2022, the Ministry of Industry and Information Technology of the PRC issued the "Industrial Product Green Design Demonstration Enterprise (4th Batch) List" and the "List of Pilot Demonstration on the Integrative Development of Next-Generation Information Technology and Manufacturing Industry (Digital Navigation Direction)". TCL Industries has been included in both lists, indicating that the Company stands at the forefront of green design, supply chain, and the integrative development of information technology and manufacturing industry in China.

S/N	Direction	Company Name
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22		Robert References Part (s. 10
23	"Digital	
24	Navigation" enterprises	
25	(30 units)	
26		TCL Industries Holdings Co., Ltd.
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#### Appendix

#### Industrial Product Green Design **Demonstration Enterprise (4th Batch) Public List**

S/N	Company Name	Subdivided Industries (Products)	Recommended Unit		
	I. Electronics & Electrical Appliances (25 units)				
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2			Interior and Information Pedering: Department of Joseph		
3	Real Designers Applied Revenue's Inc. 198.		Interior and Information Peditellog: Paperment of Joseph		
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13	TCL Industries Holdings Co., Ltd.	Home appliances, electronic products	Industry and Information Technology Department of Guangdong		
14			Interior and Information Parliables: Importance of Tamas		

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Full Ecological Digital Transformation Project for Home Appliance In	dustry Chain
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#### SELECTING ENVIRONMENTALLY-FRIENDLY MATERIALS

For green procurement, TCL Industries has introduced a green procurement management plan. This plan includes establishing requirements for hazardous substances in company products and outlining areas where suppliers shall collaborate. These measures aim to foster collective environmentally-friendly practices along the value chain and reduce negative impacts on ecosystems. To provide green and environmentally-friendly products, we prioritize the use of environmentally-friendly materials and promote environmentally-friendly processes. We also strictly control the presence of hazardous substances in the product materials to minimize environmental pollution.



#### Utilization of environmentally-friendly materials

We conduct in-depth research on the performance and characteristics of various environmentallyfriendly materials and widely adopt reusable engineering plastics and metals. We also choose environmentally-friendly paints and materials such as straw to ensure that they meet both product quality requirements and environmental standards.



#### Promotion of environmentally-friendly processes

We actively utilize spraying-free plastic and advanced injection molding processes to avoid environmentally harmful post-processing procedures of electroplating and spray painting. For plastic products, we employ extrusion molding processes to achieve continuous production, improving mold utilization and product production efficiency during the material feeding, melt plastification, extrusion forming, shaping and cooling processes.

#### Control of hazardous substances

We have established a strict management system for controlling hazardous substances based on internal regulations such as the Restricted Substance Standard and Restricted Substance Control Procedure. From raw material procurement to production processes, we conduct rigorous monitoring and testing to ensure that the hazardous substance content in our products complies with or even exceeds national and international environmental standards, so as to provide our customers with safer and more environmentally-friendly products.

Raw material control: According to the Supplier Quality Management Regulations, we require our suppliers to provide the Quality Agreements that adhere to the management of hazardous substances and commitments to control hazardous substances. We also require suppliers to provide third-party testing reports that meet the standards for controlling hazardous substances. Additionally, we identify and control the use of hazardous substances within the supply chain based on the Project Environmental Control Procedure. We have also established the Green Product Management (GPM) system and a supply chain investigation system for hazardous substances of all products to manage and test the raw materials provided by our suppliers, and we encourage them to submit hazardous substance testing reports.

Production control: We have established corporate standards for controlling hazardous substances, such as the Implementation Regulations for hazardous Substance-Free Air Conditioners and the RoHS(Appendix) Material Testing and Non-conforming Disposal Management Regulations. We adhere to the principles of substituting non-toxic substances for toxic ones and replacing hightoxicity substances with low-toxicity alternatives, and strictly control the use of hazardous substances such as lead, mercury, cadmium, and hexavalent chromium. Additionally, we have established internal physics and chemistry laboratories to periodically test incoming components for RoHS compliance. Throughout the product R&D, manufacturing, assembly, installation, and service processes, we ensure that all materials, including raw and auxiliary materials, fully comply with international directives and regulations such as RoHS and REACH(Appendix).

#### **Case: TCL Electronics establishes** the hazardous substances management system

TCL Electronics is committed to establishing a management system for hazardous substances that covers the entire product lifecycle. Focusing on reducing or substituting hazardous substances, the company strives to use recyclable and renewable raw materials to the greatest extent possible while ensuring the safety of the products. With these efforts, it aims to enhance the recyclability of the products, so as to provide safe, environmentally-friendly, and sustainable products for consumers

#### Utilization of hazard-free raw materials

TCL Electronics strictly adheres to RoHS=, REACH, Prop65(Appendix), the Stockholm Convention on Persistent Organic Pollutants, and the International Electrotechnical Commission's requirements for halogen-free equipment, develops the Restricted Substance Standard and Restricted Substance Control Procedure, and strictly implements it. Following the principle of substituting non-toxic substances for toxic ones and replacing high-toxicity substances with lowtoxicity alternatives, it strictly controls the use of hazardous substances such as lead, mercury, cadmium, and hexavalent chromium. Setting the long-term goal of achieving Hazardous Substance Free (HSF) products, the company implements standardized management for raw and auxiliary materials involved in the entire value chain, including design R&D, manufacturing, assembly, installation, and service. Furthermore, it implements harmless management and testing of all suppliers' raw materials to ensure the control of hazardous substances.

#### Utilization of renewable materials



Starting from the source, we design and adopt environmentally-friendly and renewable raw materials to enhance the disassemblability of our products, further to promote harmless disposal and contribute to the circular economy, ultimately achieving the goal of providing consumers with green products at a reduced resource cost.

#### **Recycling and reuse of products**

Our smart screen products meet the recyclability index of the EU Directive WEEE (Appendix). We adopt snap-on structures instead of screws to connect the screen shell and iron back panel, as well as to fix the rubber frame to the back panel. This facilitates easy dismantling and recycling of products when they are scrapped.



#### **Reuse of coffee grounds**

Coffee grounds, after consumption, are efficiently utilized in the production of mobile phone pro ducts by being mixed with plastic particles. This innovative approach not only reduces environme ntal pollution caused by discarded coffee grounds but also minimizes plastic usage.

#### • • Case: Cyclic utilization of marine debris

In 2023, TCL Electronics designed and developed a new structural cushioning material to replace Expanded Polystyrene (EPS) foam in the packaging boxes of televisions with Ocean Bound Plastic (OBP)(Appendix) environmentally-friendly air cushioning materials, which is made from processed marine debris. This design has been implemented in packaging products under TCL Electronics' S line, effectively reducing transportation costs and achieving waste recycling. It has truly integrated sustainable design into the lives of the users.

#### Case: TV packaging box designed as reusable "Furniture" and use of environmentally-friendly soy ink

TCL's green packaging design is a successful attempt to combine design innovation with sustainability principles. We have designed the TV packaging box to be used as reusable "furniture", and enabled its restoration back to its original packaging form for repeated use. We have also jointly developed air column packaging, which contributes to reducing packaging volume and lightweight transport packaging. With the comprehensive lightweight and integrated product design, we aim to solve the problem of discarded TV cartons and create additional usable living space for users.

In terms of packaging printing material, we have fully adopted environmentally-friendly soy ink, which has advantages of good water adaptability, stability, wear resistance, and resistance to drying. Additionally, it does not contain volatile organic compounds (VOC), making it highly beneficial for the environment and health.



#### PRODUCING DURABLE PRODUCTS

TCL Industries is committed to creating environmentally-friendly and durable products by carefully selecting durable materials, conducting rigorous reliability tests, continuously upgrading the system experience of products, and providing convenient repair services, so as to extend the lifespan of products. Through these efforts, we aim to contribute to reducing unnecessary product waste and making a contribution to environmental protection.

To achieve long-term durability of our products, we have established long-term partnerships with leading global suppliers and industry partners. We purchase highquality raw materials that have undergone strict selection and actively develop new environmentally-friendly and durable materials. In 2023, the TCL Smart Home under TCL Industries established the TCL-Wanhua New Materials Joint Innovation Center with Wanhua Chemical Group, dedicated to the development of new insulation materials for home appliances and other green polymer materials to improve the stability and environmental friendliness of the products.

#### Selecting durable materials

We continuously upgrade and iterate our product systems. By optimizing algorithms and code structures of systems, we aim to reduce unnecessary calculations and memory usage and further to optimize system response speed. At the same time, we actively explore more user-friendly user interface (UI) designs. By providing intuitive and concise operating pages, we enable users to easily navigate and enjoy a seamless user experience, thus reducing the frequency of product replacement and unnecessary waste.

Upgrading system for smooth experience

We have conducted rigorous and comprehensive reliability tests that cover various scenarios such as free fall, high and low temperatures, salt-spray corrosion, and wear resistance. By utilizing advanced testing equipment and automation systems, we thoroughly evaluate the performance, structure, and safety of our products to ensure reliability and safety in any environmental condition.

#### Conducting reliability tests

We encourage customers to use after-sales services and have established a global product repair service network. Through official websites, the "TCL" app, the "TCL Official Service" WeChat public account, doorto-door services, and mail-in repair services, we provide fast and convenient repair services to customers, reducing waste generated from premature product obsolescence and providing customers with more cost-effective and environmentally-friendly options.

#### Providing convenient repair services

#### **EMPOWERING GREEN DEVELOPMENTGREEN DEVELOPMENT IN THE SUPPLY CHAIN**

TCL Industries fully leverages its role as a "Chain Leader" and drives suppliers and other partners to participate in carbon neutrality actions. As the first company in the home appliances industry to launch the green supply chain initiative, we actively promote that suppliers prioritize the use of renewable energy and optimize production equipment capabilities, process flows, and logistics modes. We also encourage them to articulate waste reduction and carbon reduction strategies and goals, and disseminate green supply chain requirements to upstream suppliers. We look forward to closer cooperation with suppliers who voluntarily disclose and reduce their own greenhouse gas emissions and product carbon footprints, continuously driving the entire industry towards a more energy-efficient and low-carbon direction.

#### Green supply chain management

Based on the Supplier Certification Management Process, we conduct evaluations of suppliers in four stages, including certification preparation, certification, comprehensive evaluation, and public announcement, according to integrated supply chain (ISC). In addition, we sign documents such as the Subcontractor and Supplier Social Responsibility Commitment Letter and the Environmental Compliance Declaration with our suppliers, requiring them to reduce adverse impacts on the environment and natural resources during their production and operations. Moreover, we conduct social and environmental responsibility audits of suppliers and track their improvements, focusing on environmental protection, greenhouse gas reduction, compliance energy use, energy conservation, and consumption reduction. We link the social responsibility certification status of suppliers to their performance assessments, emphasizing supplier awareness and practice of social responsibility to promote the sustainable development of the supply chain. This year, 100% of TCL Industries' suppliers have signed the Green Supply Chain Initiative, aiming to jointly create an efficient and environmentally-friendly supply chain system.

#### Carbon emission reduction of key suppliers

Based on the greenhouse gas inventory situation, we have formulated the "2030 and 2050" carbon peaking and carbon neutrality goals and planned greenhouse gas accounting and emission reductions for key suppliers. To support the implementation of this plan, TCL Industries invites professional institutions to conduct greenhouse gas accounting training for key suppliers and shares carbon emission reduction measures within the industry, in an effort to promote their carbon emission reductions. For suppliers actively reducing carbon emissions, we engage in joint procurement, provide more positive evaluations, and change the proportion of their orders as appropriate.



#### **PROMOTING GREEN PACKAGING**

TCL Industries has established a team dedicated to green product packaging design for promoting green packaging. Through strategies such as technological upgrades and cyclic utilization, we optimize packaging design, prioritize the use of environmentally-friendly materials, encourage customer participation in recycling. With these efforts, we strive to minimize the waste of packaging materials and their impact on the environment to achieve maximum resource utilization.

#### **Green packaging**



We actively research and develop various alternative solutions, such as packaging made from recycled materials like honeycomb paper, paper film, biodegradable bags, water-based and soybased inks. We promote the use of healthier and more environmentally-friendly Expanded Polyethylene (EPE) materials that are easy to recycle, as well as Forest Stewardship Council (FSC) certified paper packaging materials and ABS recyclable plastics. Currently, some TCL Industries projects have achieved plastic-free packaging and 100% recyclability, and we plan to expand the use of plastic-free packaging to more product ranges in the future.

#### Lightweight packaging

To promote packaging reduction, we implement measures such as downsizing packaging boxes and reducing the number of pages in product manuals globally. By using thin materials, optimizing packaging foam and carton dimensions, adopting L-shaped packaging layouts, and eliminating pearl cotton pads, we reduce the weight and volume of packaging materials, effectively minimizing their usage. For example, the volume of air conditioner packaging in containers has increased by more than 10%.

#### Package recycling

We have developed and implemented the internal document Design Specifications for Packaging Components Recyclability Mark to standardize packaging recyclability markings for TCL products. At the same time, we continuously promote packaging recycling in both internal production and external supply chains. For example, the Smart Screen under TCL Industries has detailed specifications and requirements for packaging design, requiring that all packaging must comply with the Structural Design Specification, Standardized Checklist for Cartons of 76 Categories, and Packaging Technical Roadmap, Strategies and Specifications in the Smart Screen R&D Strategy Route.

- efficiency. We adopt lightweight packaging to reduce packaging costs, and conduct pre-research and reserve green and environmentally-friendly packaging materials.
- During the production process, we actively use reusable material boxes/crates, standardized delivery of tooling carts, and reusable protective films as tools to protect process products.
- film pads, etc.

 During the design process, we optimize internal cushioning thickness to improve container loading on region-specific end-to-end designs for fundamental products. We also conduct pre-research on

• In the supply process, we also require suppliers to deliver using recyclable materials, such as reusable material boxes/crates, standardized delivery of tooling carts, and reusable dust cloths and Applying embedded honeycomb board design specifications for TVs 75 inches and below, reducing packaging thickness by 15mm

Calculating EPS cushioning and back panel elastic properties, significantly reducing packaging volume compared to products of the same class for TCL TVs

TCL Communication and Smart Screen promote

Clarifying five types of remainder packaging modes for fully bulk assembled factories to reduce packaging waste

ackaging design innovation nd technological upgrade Implementing packaging solutions for 98inch large sizes assembled from smaller sizes, saving on 298F container loading volume

> Iterating template cardboard into sliding plate, achieving the highest loading rate of up to 50%;

The outer packing size was standardized, and the packing height increased by 9% was optimized according to the marine transportation tray, which improved the loading rate.

#### Packaging Design Innovation and Technological Upgrade

#### **PROMOTING RECYCLING**

TCL Industries actively takes on extended producer responsibility, focusing on product easy disassembly during the design phase. We continuously promote resource reuse and actively engage in trade-in programs to encourage customers to participate in recycling efforts, aiming to reduce the generation and emissions of electronic waste. We place importance on increasing the proportion of green and recyclable raw materials and promoting the recycling of discarded products and accessories at the end of their lifecycle. Leveraging a network of over 5,000 service providers and more than 30,000 service engineers in China, we have established a collection network for old household appliances, effectively connecting the recycling channels. As of the end of 2023, we have collected a total of 4.296 million old appliances through various channels.

We take into account material disassembly, reuse, and recycling in advance during the design phase. In practice, we strictly adhere to the recyclability index of the EU WEEE directive. For example, we replace screw fasteners with snap-on structures for the connection of smart screen shell and iron back panel, as well as the fixation of rubber frame and back panel, making it easier to dismantle and recycle products when they are scrapped.

## Launching trade-in programs

We continuously improve the household appliance recycling system, establishing a recycling information system for after-sales service, which is engaged in self-disassembly and disposal from front-end collection to back-end TCL Environmental Technology. We keep operating the recycling information entry point and collaborate with front-end sales through the "Internet + Recycling at Direct Service Store" model, encouraging consumers to actively participate in electronic product recycling and increase the reuse rate of waste electronic products.

To maximize the recycling and reuse of waste products, we have signed recycling agreements with suppliers. We regularly transfer metal resources of reusable tooling carts, waste equipment, and parts to professional third-party recycling companies and non-profit organizations for reutilization. With TCL Environmental Technology as the main entity, we engage in recycling, disassembling, and reusing of waste electrical and electronic products; purification, cyclic utilization, and resourceful utilization of chemical products such as waste solvents and etching liquids; and waste recycling of packaging materials such as cartons. We also set recycling bins for used batteries to support compliant recycling of electronic waste. In 2023, TCL Environmental Technology has recycled and disassembled approximately 4.76 million waste household appliances, significantly increasing resource recycling. In February 2024, TCL Environmental Technology was honored with the "Pollution Reduction and Carbon Reduction Demonstration Award" in Huizhou Zhongkai High-tech Zone.

#### Adopting easy disassembly design

#### **EXPLORING GREEN LOGISTICS**

We are committed to optimizing the logistics and transportation structure and actively cooperate with COSCO, Maersk and other logistics partners to promoting the transition from air transportation to sea or rail transportation. Through precise logistics planning and coordination, we manage to reduce carbon emissions from product transportation while ensuring the safety and timely delivery of goods.

In 2023, air transportation volume decreased by 43.87% compared to the previous year, while sea transportation and railway transportation increased by 10.96% and 227.78%, respectively. By actively promoting "air-to-sea" and "air-torail" transportation, we effectively reduce transportation carbon emissions, demonstrating our significant achievements in optimizing the logistics structure. Additionally, to improve transportation efficiency, we utilize channels such as specialized shipping logistics websites to obtain big data information. Through advanced logistics management software and technology, we reduce transportation distance and time, thereby reducing fuel consumption and emissions.



### JOINING HANDS WITH THE VALUE CHAIN AND SOCIETY TO BUILD A NET-ZERO ECOSYSTEM

Climate change is a serious challenge faced by all humanity today. Against the backdrop of increasingly severe climate change, China has put forward the goals of peaking carbon emissions by 2030 and achieving carbon neutrality by 2060 ("3060" goal). Driven by the responsibility of being a great power brand and the key objective to "Build a Healthy and Sustainable Green Cooperative Ecosystem" as part of its ecological strategy, TCL Industries makes efforts to actively respond to China's "dual carbon" strategy. It proactively leverages its technological innovation advantages, collaborating with various partners to accelerate climate transformation and contribute to China and the global journey towards a zero-carbon future.

#### **EXPORTING TCL'S LOW-CARBON INFLUENCE**

We regularly hold communication meetings for suppliers to convey the Company's requirements for low-carbon and environmental protection. We also share industry trends and market information, as well as carbon verification at organizational level and carbon reduction measure training for major suppliers. We encourage suppliers to actively share new developments in materials and technologies, and collaborate with our R&D department to explore technology innovation and product improvement strategies, achieving mutually beneficial outcomes. Through close collaboration and ongoing communication with suppliers, we are committed to establishing a solid green supply chain relationship and improving the low-carbon management level of the supply chain.

## Case: Organizing global supply chain ecosystem conference for sustainable development

In September 2023, the "Rising Together, Creating Peak" TCL Industries Global Supply Chain Ecosystem Conference was held in Wuxi. Nearly 200 global ecological partners and more than 400 guests were invited for the event to discuss the future of the global supply chain, share international top resources, and promote high-quality development of the industry. At the conference, TCL Industries, together with partner representatives, released the TCL Industries Supply Chain Convention. It aims to build a "globalized, integrated, intelligent, and low-carbon" supply chain ecosystem and create an integrated ecological circle encompassing supply chain, industry, and intelligent ecosystems.



#### Case: As the "Chain Leader", TCL Industries conducts supplier energy-saving and low-carbon empowerment training



In November 2023, in order to enhance the energy-saving and carbon reduction capabilities of the supply chain and support the clean energy transition in the supply chain, TCL Industries organized the 2023 Supplier Energy-saving and Low-carbon Empowerment Training. Nearly 100 representatives from 50 suppliers from different industries and regions participated in this empowerment training online. In line with TCL Industries' green development strategic target of "collaborating with the value chain and society to build a net-zero ecosystem", we called on our TOP 50 supplier partners to embrace change and accelerate green transformation, devoting more resources and efforts to key issues such as enhancing resilience to climate change.

#### • • Case: Organizing environmental supplier training session

In June 2023, TCL Smart Home invited the well-known thirdparty testing institution, Foshan Waltek Testing Group, to organize an environmental supplier training session for over 300 suppliers. The training covered topics such as penalty cases for hazardous substances, hazardous substance control requirements, introduction of the latest environmental regulations, and principles of sample splitting for testing. This enhanced the suppliers' awareness and attention to the export regulations regarding hazardous substances.



#### **SUPPORTING GREEN AND LOW-CARBON DEVELOPMENT OF SOCIETY**

Achieving the dual carbon goals requires profound changes involving various sectors of the economy and society, including industrial production, transportation, urban and rural construction, agricultural development, and consumption patterns. As key strategic emerging businesses under TCL Industries, TCL Photovoltaic Technology, Getech, and TCL Environmental Technology are promoting the philosophies of integrated innovation, collaborative innovation and joint innovation. Through the efforts, they integrate resources across the entire green industry chain, optimizing the green supply chain system, and building a new dual carbon industrial chain. This not only provides a solid guarantee for TCL Industries' business to achieve green and low-carbon development but also offers solutions for green and low-carbon development of society

#### TCL PHOTOVOLTAIC TECHNOLOGY: FACILITATING THE TRANSITION TO CLEAN ENERGY IN SOCIETY

In response to China strategy of Rural Revitalization. TCL Photovoltaic Technology (TCL) helps farmers to make money by leasing the roofs of their houses. Such business models are named as "Light Xinbao - co-prosperity" and "Light Yuebao", where farmers provide their roofs or courtyards, and TCL is responsible for the construction, operation & maintenance of the power stations. All green electricity is fed to the power grid. The business norm not only provides clean energy to the whole country, but also enables farmers to make stable long-term income by utilizing idle space, thus achieving the goal of helping and benefiting farmers. By the end of 2023, the total operation scale of TCL has reached 2.9 GW. If power stations operate 1,000 hours annually, the annual renewable energy output of TCL was 2,900 GWh, reducing carbon emissions by 1.6539 million tons and helping the development of a zero-carbon society.

#### Case: TCL Photovoltaic Technology ranks on the "2023 China Corporate Carbon Neutrality Performance List"

The TCL Photovoltaic Technology under TCL Industries has been honored with the "Green Supply Chain Management Award" for its outstanding performance in driving energy transition, rural revitalization, and green carbon reduction. This honor is a high recognition of the achievements TCL Photovoltaic Technology has made in the field of photovoltaics and reflects its leading role in assisting the overall society's low-carbon transition As an excellent company in the photovoltaic industry, TCL Photovoltaic Technology has maintained rapid development since its establishment in December 2021 through continuous technological innovation and improvement in service quality, contributing to China's carbon peaking and carbon neutrality goals. When industrial and commercial enterprises need to undergo energy transition, TCL Photovoltaic Technology provides customized photovoltaic power generation solutions. For instance, the Huizhou TCL Mobile Roof Photovoltaic Project generates an average of 3.3 million kilowatt-hours of electricity annually, reducing standard coal consumption by 1,188 tons and cutting carbon dioxide emissions by 1,882 tons. The photovoltaic power stations help enterprises effectively reduce their carbon emissions and traditional energy consumption, achieving the dual benefits of green development and cost reduction.



TCL Photovoltaic Technology won the Green Supply Chain Management Award

#### • Case: TCL Photovoltaic Low-Carbon **Campus Real-time Data Monitoring Platform**

In June 2023, the unveiling ceremony for TCL Photovoltaic Low-Carbon Campus was held at Caomiao Primary School in Xixiang County, Hanzhong City, Shaanxi Province. The event showcased the "TCL Photovoltaic Low-carbon Campus Real-time Data Monitoring Platform", which was independently developed by TCL. It integrates data collection, analysis, display, and operation & maintenance monitoring functions, providing real-time data on total electricity generation, capacity, cumulative revenue, CO<sub>2</sub> emission reduction, and saved standard coal. Currently, the project has generated 496,398 kilowatt-hours of electricity in 2023, contributing to the establishment of green campus.





## Case: TCL Photovoltaic Technology actively responds to the national rural revitalization strategy

TCL Photovoltaic Technology actively responds to the national rural revitalization strategy. Through the mode of leasing products like "Light Xinbao - co-prosperity" and "Light Yuebao", it supports farmers to generate income by renting out their roofs. In this model, farmers only need to provide their roofs or courtyards, while TCL Photovoltaic Technology takes care of the construction and operation & maintenance of the power stations. All the green electricity generated is fully fed to the grid, not only providing clean energy to the whole nation, but also enabling farmers to generate stable long-term income by utilizing idle space, thus achieving the goal of supporting and benefiting farmers.



#### GETECH: ACCELERATING INDUSTRIAL GREEN AND LOW-CARBON TRANSFORMATION WITH DIGITAL TECHNOLOGY

In 2023, the development landscape of the semiconductor and new energy industry chain is complex and everchanging. As a leading industrial Internet enterprise with a strong manufacturing background. Getech under TCL Industries focuses on providing full-stack digital solutions for customers in the semiconductor and new energy industry chains. Getech has made continuous efforts in upstream and downstream for panels and chips, and successfully built a full-stack domestic carbon solution. Getech Industrial Application Intelligent Platform consistently ranks among the top ten in the dual-cross-platform dynamic evaluation by the Ministry of Industry and Information Technology. With the support of the Getech platform, Getech has provided products and solutions for more than 20 industries, including semiconductor, new energy, 3C electronics, home appliances, petroleum and petrochemicals, aviation and aerospace, empowering the digital and intelligent transformation of many industries.

## Case: Getech assists leading automotive enterprises in intelligent and low-carbon initiatives

Getech assists leading automotive enterprises in establishing a unified smart energy consumption monitoring platform, realizing enterprise informationization and production process transparency through online energy consumption monitoring. This ensures real-time and accurate energy consumption data, enabling visual monitoring of production energy efficiency levels of enterprises. By analyzing energy efficiency and benchmarking, the platform accurately identifies energy-saving potential in the enterprise production process, enhances enterprise energy management efficiency, and provides energy-saving measures and performance assessment basis. Additionally, the platform monitors various types of energy data in the nine workshops at the production bases, including stamping, welding, painting, assembly, and logistics. It displays the overall energy status, all key indexes, and

carbon emissions data of the factories, conducts energy consumption analysis for different equipment, work sections, workshops, and the entire factory, calculates the energy consumption of each unit product across various time dimensions, and establishes a unified energy and carbon intelligence system of the entire factory.



## Case: Getech facilitates government low-carbon transformation

Getech has helped the government establish a smart dual-carbon management platform, which incorporates features such as dual-carbon management, carbon reporting, carbon emission analysis and supervision, and carbon reduction analysis. By integrating data on economics, pollutant emissions, carbon emissions, and energy structure, the platform provides the government with a comprehensive evaluation system for cross-industry comparison of enterprises and a basis for specific policy implementation. It explores innovative management through the visualization of data from various sources and assists in the implementation of precise policies. The platform displays the proportion of hydrogen energy types within the region and enables different types of enterprises to analyze carbon emission data results in various dimensions, and also provides an enterprise evaluation system. It also monitors the emission reduction of hydrogen-powered transportation within the region, automatically accounting for the carbon emission reduction after data collecting, cleaning, computing processing and summarizing.





#### TCL ENVIRONMENTAL TECHNOLOGY: FOCUSING ON RESOURCE **RECYCLING AND UTILIZATION**

In 2023, TCL Environmental Technology actively responded to the country's call for green development. Despite facing challenging environmental conditions, the company still continued to increase R&D investment, promote technological innovation, and focus on resource recycling to improve the utilization rate of industrial waste resources. With the vision and mission of using technology to promote resource recycling and promote harmonious coexistence between humans and nature, it proactively assumes its extended producer responsibility, actively conducting recycling warehouse construction in three cities in eastern Guangdong. These efforts aim to promote the safe disposal and resource recycling of electronic waste, so as to prevent and reduce negative environmental impacts. The company's general solid waste recycling services support TCL's four major industries in the recycling and reuse of upstream materials. The general solid waste recycling business provides services such as recycling, sorting, selection, cleaning, warehousing, and shipping for reusable packaging materials such as foam boxes, blister trays, and cardboard pallets. These materials are then returned to manufacturers for recycling, helping upstream suppliers achieve energy-saving and emission reduction effects.

## Case: TCL Environmental Technology helps enhance industrial waste resource utilization rate in society



#### Cyclic Utilization of Electrical and Electronic Products

R&D and application of high-value

**Recycling of Hazardous Waste** 

ies for waste organ

of fly ash v for PCB etching







**Recycling and Reuse of New** 

Materials and General Solid Waste







Environmental Integrated Service

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# **O7** APPENDIX





### **TIME FRAME**

This report covers the period from January 1, 2023, to December 31, 2023 (referred to as "this year"). To enhance the comprehensiveness of the report, certain content may include references or extensions to other significant years.

### **REPORT APPELLATION DESCRIPTION**

For ease of expression and reading, unless otherwise specified, the terms "TCL Industries", "the Company", and "we" in this report refer to TCL Industries Holdings Co., Ltd. and the following major subsidiaries. Due to no actual production factory of TCL Industrial Park, TCL Financial Service, and Falcon Network Technology, they are not included in the carbon inventory scope.

Full Name of Major Subsidiaries	Abbreviation
TCL Electronics Holdings Limited	TCL Electronics
TCL Communication Technology Holdings Limited	TCL Communication
Shenzhen Falcon Network Technology Co., Ltd.	Falcon Network Technology
Huizhou TCL Photovoltaic Technology Co., Ltd.	TCL Photovoltaic Technology
TCL Air-Conditioner (Zhongshan) Co., Ltd.	TCL Air-Conditioners
Tonly Technology Holdings Limited	Tonly Technology
TCL Technology Industrial Park Co., Ltd.	TCL Industrial Park
Getech Technology Co., Ltd.	Getech

#### Full Name of Major Subsidiaries

TCL Environmental Technology Co., Ltd.

TCL Financial Service Holding Group (Guangzhou) C

Guangdong TCL Smart Home Co., Ltd.

TCL Household Electric Appliance (Hefei) Co., Ltd.

Guangdong Homa Refrigerator Co., Ltd.

#### **KEY ENGLISH ABBREVIATIONS**

CO2e:	Carbon dioxide equivale
CDP:	Carbon Disclosure Projec
SGS:	Société Générale de Surv recognized testing, inspe
RoHS:	Restriction of Hazardous the Use of Certain Hazard Equipment, a mandatory
REACH:	Registration, Evaluation European Union regulati entering its market.
Prop65:	California Proposition 65 Toxic Enforcement Act of such as lead, cadmium, p
OBP:	Ocean-Bound Plastic, a g Conservancy.
WEEE:	Abbreviation of Waste Electronic Equipment Di

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	Abbreviation
	TCL Environmental Technology
Co., Ltd.	TCL Financial Service
	TCL Smart Home
	Hefei Household Appliances
	Homa Refrigerator

#### nt

ct, (disclosing carbon emissions information)

veillance, an internationally ection, and certification organization.

Substances, full name: Directive on Restricting dous Substances in Electronic and Electrical y standard established by the European Union.

n, Authorization, and Restriction of Chemicals, a ion that governs the management of all chemicals

5, also known as the Safe Drinking Water and of 1986, which tests for the presence of chemicals phthalates, and bisphenol A in products.

global certification program initiated by the Ocean

ectrical and Electronic Equipment (Waste Electrical and irective (2002/96/EC)).

#### **KEY ENGLISH ABBREVIATIONS**

CATI:	Corporate Climate Action Transparency Index, developed in 2021 by the Institute of Public and Environmental Affairs (IPE) with technical support from the Chinese Research Academy of Environmental Sciences.
CITI:	Corporate Information Transparency Index for Green Supply Chain, jointly developed by the Institute of Public and Environmental Affairs (IPE) and the Natural Resources Defense Council (NRDC) in 2014.

#### Sources and reliability of information

The data and cases in this report mainly come from official company records, statistical reports, and financial statements. The Company ensures that the content of this report does not contain any false or misleading statements. Unless otherwise stated, the monetary amounts mentioned in this report are in Chinese Renminbi (RMB).

#### Report access

This report is available in both Chinese and English versions.

In the case of any discrepancies in the content, the Chinese version of the report prevails.

The electronic version of the report can be obtained from the company's official website (www.tcl.com)



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