

TCL



TCL Industries Holdings Co., Ltd

CARBON NEUTRALITY WHITE PAPER

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1. Leader Speech

Climate change is a global issue, bringing increasingly severe challenges and unprecedented impacts to mankind, but mankind's understanding of climate change is also deepening. Since the Industrial Revolution, human activities, especially the carbon dioxide emissions generated by the massive consumption of fossil energy, have aggravated global climate change and also brought many impacts on our production and lifestyle. We are fully aware that only by choosing the path of green and low-carbon development on the basis of respecting nature can we achieve a harmonious coexistence between man and nature.

Looking back at 2022, global development is facing major changes such as economic turmoil and geopolitical conflicts, but "carbon neutrality" is still the global consensus and direction of action, and the Chinese government is also making unremitting efforts for the goal of "dual carbon". Today, China faces many difficulties, such as economic development, improvement of people's livelihood, pollution control and energy security. Compared with developed countries, China's industrial transformation is a heavier task and requires more efforts. This requires us to follow the general trend of scientific and technological revolution and industrial transformation and strike a balance between economic development and energy conservation and carbon reduction, and between short-term goals and long-term interests.

TCL has been established for 42 years, we have developed and grown under the care and cultivation of the state. That is why we have such a scale and capability today, so it is more important to closely link its own development with the social environment, fully understand the connotation and extension of Chinese-style modernization, and take the initiative to shoulder the responsibility of economic development, improvement of people's livelihood, and promotion of innovation. We are committed to achieving carbon peak by 2030 and carbon neutrality by 2050. We believe that carbon neutrality is a cause that benefits the future and deserves our best efforts.

TCL Industries has a huge production, sales, logistics and service network, so on the basis of its own emission reduction practice, more attention to the construction of green and low-carbon supply chain. We actively assume the social responsibility of leading technology enterprises, and achieve multiple amplification of green benefits through the low-carbon transformation of Gechuang Dongzhi industry. We are not only leading green consumption with low-carbon products, but also investing heavily in a new "dual-carbon" to build a "carbon-neutral" ecosystem, empowering thousands of industries to reduce carbon emissions, and accelerating China's transition to a zero-carbon economy and society.



"THE DOCTRINE OF THE MEAN " says: "Thousands of sails compete, the first must be the hardest; Thousands of boats, the brave must win." Under the banner of Chinese-style modernization, TCL Industries firmly believes that addressing climate change is a global consensus, and will anchor goals, follow the trend, persevere, and embrace innovation. We will give full play to the advantages of technological innovation, forge ahead in the field of climate governance, and build the sustainable development capacity of enterprises for the future. We are ready to join hands with all partners to take actions to accelerate the transformation of development and help China and the world move towards a zero-carbon future.

李东生

July 2023

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

He is currently the Chairman and Chief Executive Officer of TCL Technology Group Co., LTD. (formerly known as TCL Group Co., LTD.) (000100.SZ) and a director of TCL Industries Holdings Co., LTD.

1. Leader Speech

Addressing climate change is a common challenge facing all mankind, and green, low-carbon and sustainable development has become a global consensus. TCL Industries takes the responsibility of being a big brand as its own responsibility, insists on incorporating social responsibility into its development planning, and actively promotes the capacity on green and low-carbon development. We focus on the long-term strategy of "brand leading value, relative cost advantage, extreme operating efficiency, collaborative innovation driven", to bring global users a "full scene, full category, full connection" smart life experience. We played a leading role in technology and industrial chain and joined hands with the society to actively promote the construction of net zero ecosystem.

Product innovation can bring wonderful life. TCL Industries continues to improve its capability on research and development and continues to use innovative technologies to inject new momentum into product and service experience, creating a green, convenient and intelligent life for users. The backlight control system used by our LCD TV won the gold medal of China Patent, which effectively improves the picture quality while saving about 40% of the power consumption. Our LCD TV won the first carbon label certification in China. Our air conditioners use new efficient frequency conversion technology, smart soft air and other international leading fresh air technology. Fresh air of small blue wing series products is highly recognized by consumers. TCL fresh air conditioning for bedroom won the "leader" product certification of enterprise standard green and low-carbon development technology conference of home appliance in 2021; Our refrigerator products used "magnetic field freshness technology" and won the health freshness innovation brand.

Green development promotes the environment full of vitality. Adhering to the concept of green development, TCL Industries promotes low-carbon operation, comprehensively builds low-carbon operation capacity from the dimensions of green design, green supply chain, green manufacturing, green packaging, green logistics, green marketing and service, and green recycling, and uses digital technology to improve the efficiency of low-carbon management system. We actively implement energy-saving measures in the process of production and operation, facilitate the substitution of clean energy, and promote green transformation and development. We focus on the greening of raw materials, increasing the proportion of recyclable materials and recycling of end-of-life products and accessories. Relying on more than 5,000 Chinese service providers and more than 30,000 service engineers, we have established a recycling network for old household appliances and opened up recycling channels. By the end of 2022, we had recycled a total of 4.296,000 units of used home appliances through various channels.

Harmonious ecology transfer energy for society. TCL Industries implements its corporate mission, issues a green development proposal, aims to build a green supply chain ecology, actively outputs energy diagnosis and energy optimization plans, organizes carbon verification and carbon reduction measures training, and works with upstream and downstream industrial chains to jointly reduce carbon; With the help of TCL Foundation, we donated rooftop solar power generation systems to rural schools to reduce carbon diox-



ide emissions by 4,716 tons in 2022. We layout the photovoltaic industry, TCL photovoltaic technology has cooperated with a number of top 500 well-known enterprises at home and abroad, we are committed to empowering the countryside through the development of household photovoltaic, in the greatest extent to achieve the benefit of the people, help rural revitalization, and promote the development of new energy in rural areas. We entered the environmental protection industry, promoted ecological restoration business, focused on overcoming the "high-value and high-quality" hazardous waste resources, break through the "high-difficulty" waste resources, promoted the conservation and intensive use of resources, and facilitated the construction of circular economy.

In the face of challenges, TCL Industries will continue to work hard and forge ahead. We are committed to achieving carbon peak no later than 2030 and carbon neutrality in operation no later than 2050. We are full of hope to join hands with all sectors of society to build sustainable development capabilities of enterprises, promote the country to achieve the "dual carbon" strategic goal as soon as possible, and contribute TCL wisdom and strength to the beautiful China where harmonious coexist between people and nature, and global control global temperature within 1.5°C.

杜娟

July 2023

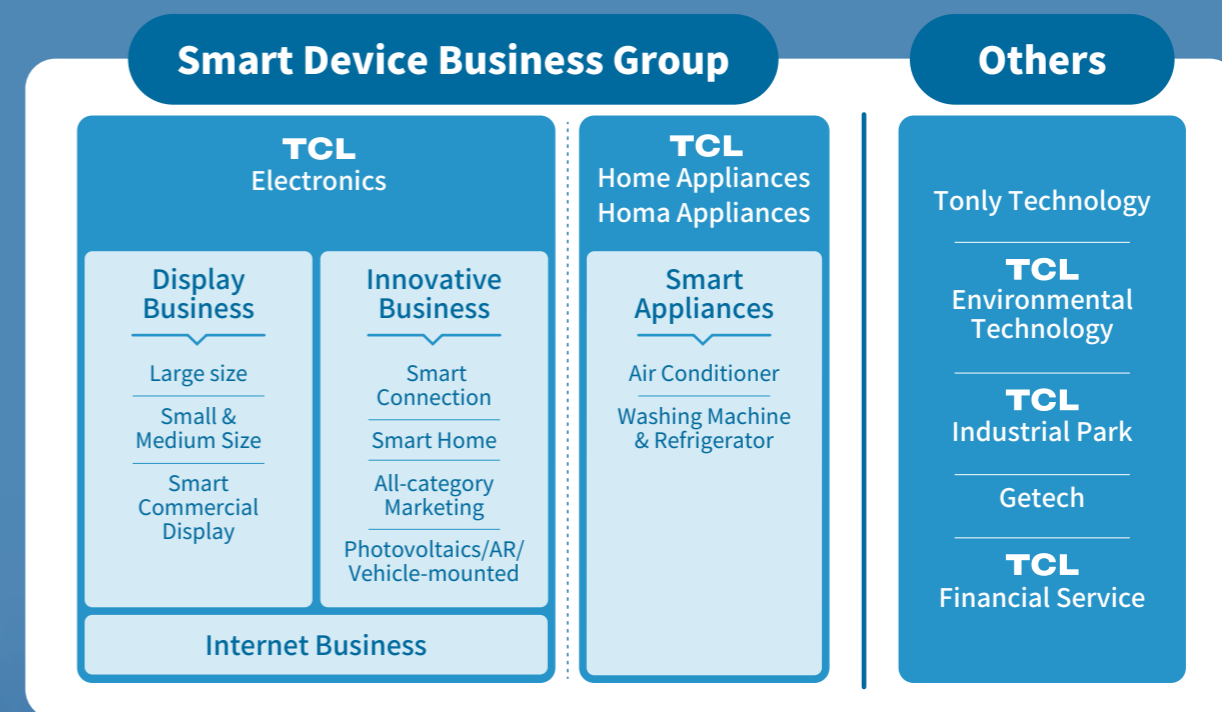
Du Juan, CEO of TCL Industries

2. About TCL Industries

TCL Industries Holdings Co., Ltd (hereinafter referred to as "TCL Industries" or "the Company") focuses on intelligent terminal business, which mainly covers display, smart home appliances, innovation business and home Internet and other intelligent consumer electronic products and services. At the same time, the company vigorously develops other businesses including environmental protection technology, industrial park operation, intelligent manufacturing, industrial finance, etc.

TCL has established a complete supply chain system in the global market, with more than 60,000 employees spreading in Asia, the United States, Europe and Oceania. At the same time, the company has set up a number of research and development institutions around the world, sales offices in more than 80 countries and regions, and business scope in more than 160 countries and regions. Its brands include TCL, XESS, Thunderbird, Lehua, FALCON, ALCATEL, HOMA, TONLY, etc.

TCL Industries promotes the development of the industry with science and technology. Aiming at various application scenarios such as smart home, mobile service and smart business display, TCL Industries provides global users with smart and healthy life in the whole scene and is committed to becoming the world's leading industry group in intelligent technology.

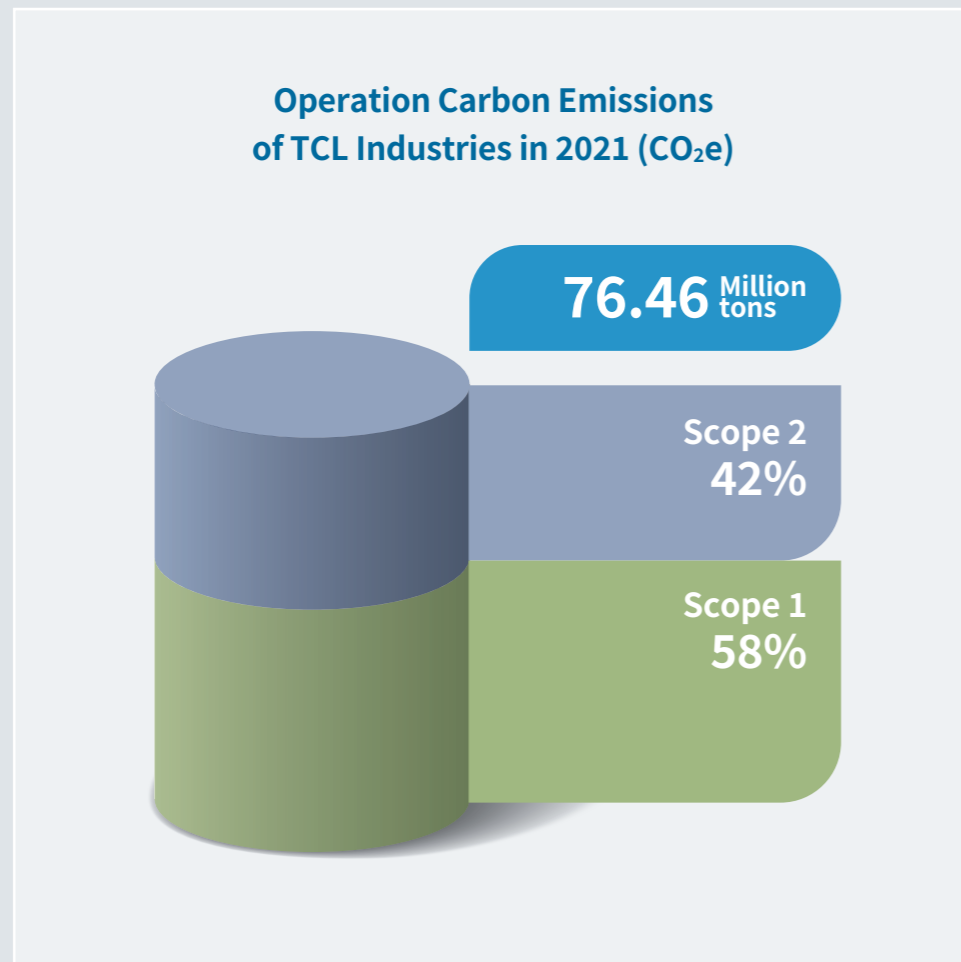


As for TCL's ESG practices and green and low-carbon work, Fortune gave full recognition to TCL for "addressing climate challenges through the development of green products, green supply chain, smart energy management system and renewable energy utilization". Forbes China spoke highly of the TCL, in addition to implementing the "dual-carbon" strategy, TCL leads the upstream and downstream to co-create sustainable development by building green factories, launching green products and promoting green culture, starting from all links of the value chain.



3. Abstract

In the process of the implementation of "dual-carbon" strategy, both the government and enterprises need to conduct accurate carbon inventory to determine the overall emission baseline. Based on this baseline, TCL Industries explored emission reduction paths from three perspectives of "strong internal emission reduction", "strong external emission reduction" and "internal and external collaborative emission reduction", scientifically sought the optimal strategy, and formulated specific implementation plans for the implementation of the "dual-carbon" strategy.



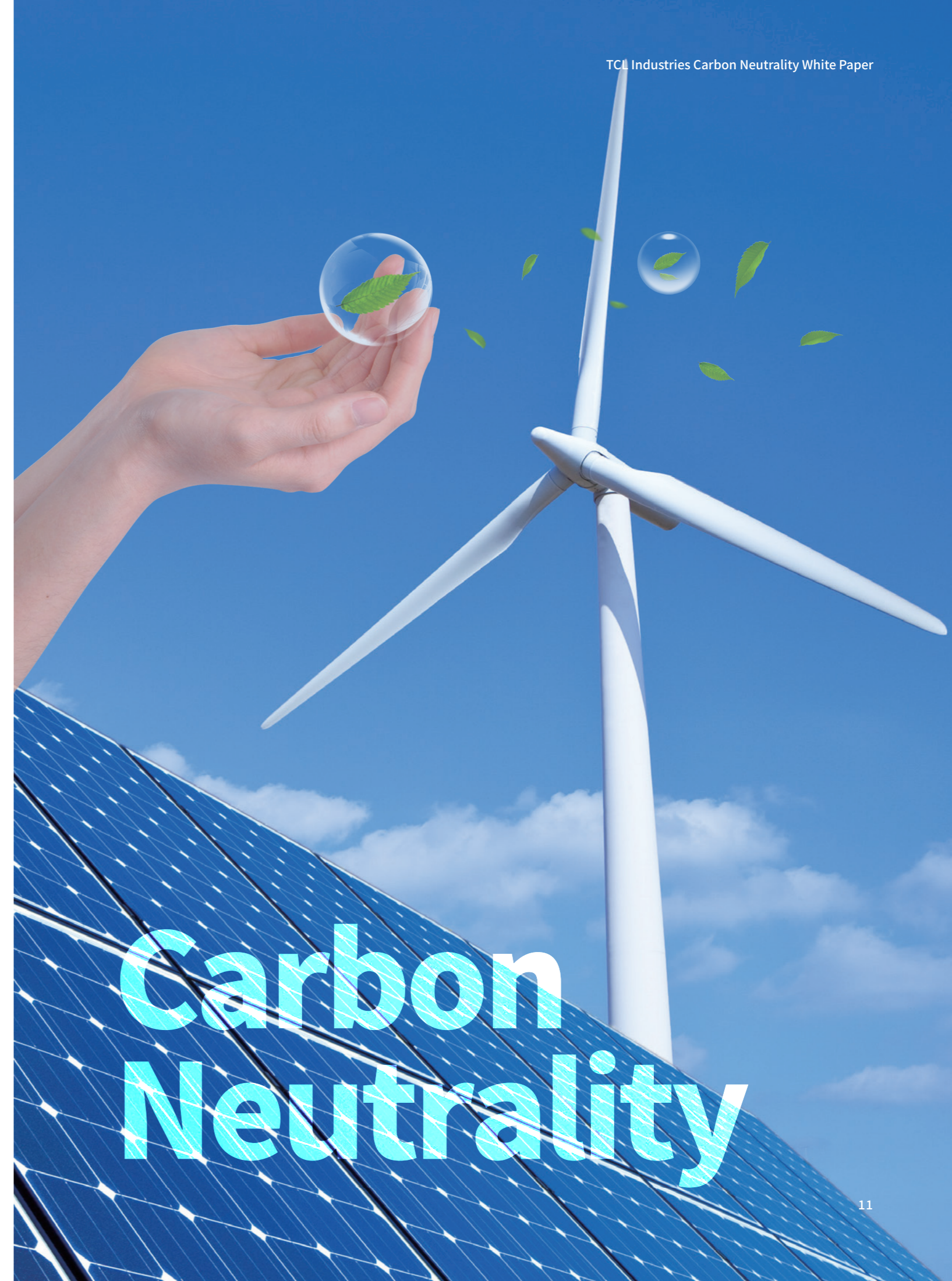
Note: The scope of carbon verification includes the headquarters, CBG, OBG office platform, Air conditioning business, Smart screen BU, White home appliance BU, Communication division, Photovoltaic technology, Tonly Electronics, Getech, Environmental protection Technology, Homa Electric (full name is shown in the table below).

Consumption Reduction



Industry actively played a pioneering role in energy conservation and carbon reduction, strengthened low-carbon technology innovation, low-carbon infrastructure construction, increased the use of clean energy, built green factories, and promoted green operations. It also establishes a sound digital low-carbon energy management system, and leads the trend of energy conservation. At the same time, we should actively undertake corporate social responsibility, play the role of hub, drive the whole value chain to carry out green and low-carbon activities, in order to jointly build a net-zero ecosystem.

Scope	Subject of emission	Innovation and practice		
Self-operation	TCL	Development and application of low-carbon technologies	High energy efficiency and energy-saving technology/ recycled materials/ green and low-carbon materials	
		Green infrastructure construction	Digital energy management system/low-carbon infrastructure construction, energy utilization Green factory(Low carbon manufacturing)	
		Green office/ Green production	Office, production and energy-saving on operation, energy replacement	
Value chain	Suppliers	Supplier Management/ Green supply chain	Supplier access criteria	
			Formulate the Safety and Environmental Management System for Relevant Parties	
			Supplier environmental behavior management	
			Green technology innovation, recycling materials development and utilization, coordinate on carbon reduction	
	TCL	Implement low-carbon packaging	Reduce the consumption in packaging material and use environmental-friendly renewable materials	
			Explore low-carbon logistics	Use low-carbon transportation mode and low-carbon fuel to improve transportation efficiency and optimize distribution plan
			Low carbon recycling	Collection, disposal and recycling of renewable resources Strengthen operational waste management
	Customers	Develop low-carbon products	Leading the new trend of green consumption	
			Conduct carbon footprint assessment of ICT products and optimization technology	
			Carbon label	
Employees	Lead a low-carbon life	Guide employees to green office and low-carbon life		
Net zero ecosystem	Economic society (showing corporate social responsibility)	Environmental protection publicity	Pass on the concept of green and low-carbon to the society	
		Restoration of the environment	Additional carbon removal technology - ecological restoration	
		Circular economy	Develop a circular economy and promote the economical and intensive use of resources	
		Promoting the development of new energy in rural areas	Photovoltaics, wind power, and hydropower are widely used in rural areas	
		Multi-party cooperation	Ecosystem construction	

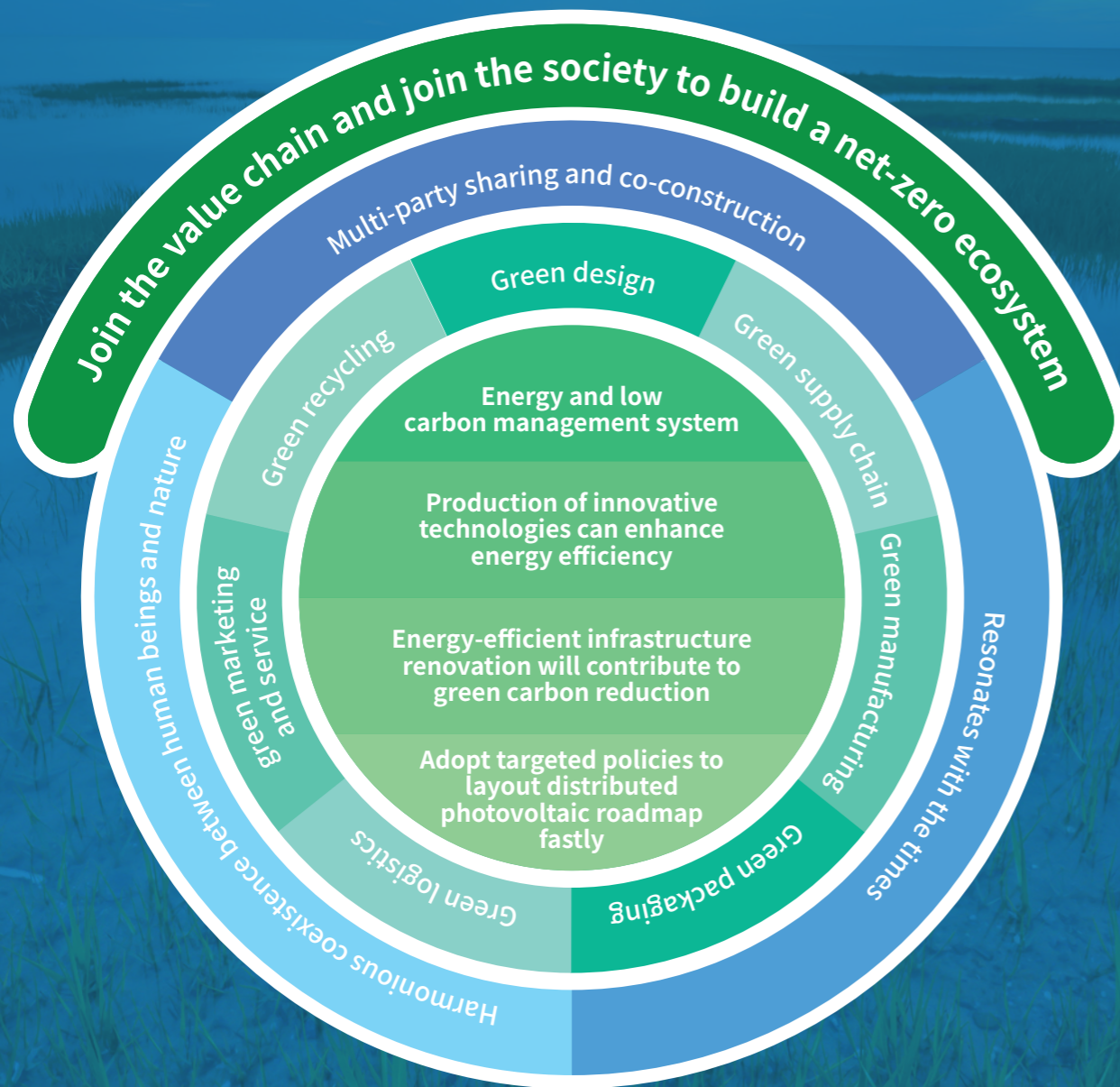




4

Fully implementing
the "carbon peak & neutrality"
strategy, TCL Industries shows
corporate's responsibility

4.1 As climate change becomes more severe, it is urgent to take action to reduce carbon emissions



Climate change is a serious challenge facing all mankind in today's world. The excessive emission of greenhouse gases brought by human activities has led to the increasingly severe phenomenon of global warming. The Sixth Assessment report of the Intergovernmental Panel on Climate Change (IPCC) further confirmed that human activities are the main cause of climate warming. With the climate warming, extreme climate disasters such as high temperature, drought and flood occur frequently, posing a great threat to the global ecosystem, social and economic development and human survival and sustainable development. More and more countries are taking climate seriously. According to ICLEI, a global sustainable development organization, 982 cities and regions around the world have committed to climate action, including declaring a climate emergency, adopting carbon-neutral targets, divesting from fossil fuels, and transitioning to 100% renewable energy.

In 2022, the historic and legally binding Glasgow Agreement on Climate Change (hereinafter referred to as the Agreement) was reached at the COP27 Conference in Glasgow. The Conference agreed to "increase the level of Intended Nationally Determined Contributions" as the key to the conclusion of the Agreement and adopted the outcome document of the second Conference of the Parties to the Glasgow Agreement on Climate Change. The conclusion of the Agreement will push all parties to further implement the Bali Road Map and strengthen consensus on climate action.

As the largest developing country in the world, China has been committed to taking an active part in global climate governance and shouldering its responsibility to address climate change. At the 75th session of the UN General Assembly, the President of China, Xi Jinping announced to the world for the first time that "China will increase its voluntary contribution, strive to reach the peak of carbon dioxide emissions before 2030, and strive to achieve carbon neutrality before 2060." This means that China will assume more international responsibilities in addressing climate change and make greater contribution to the global response to climate change and the realization of the Sustainable Development Goals.

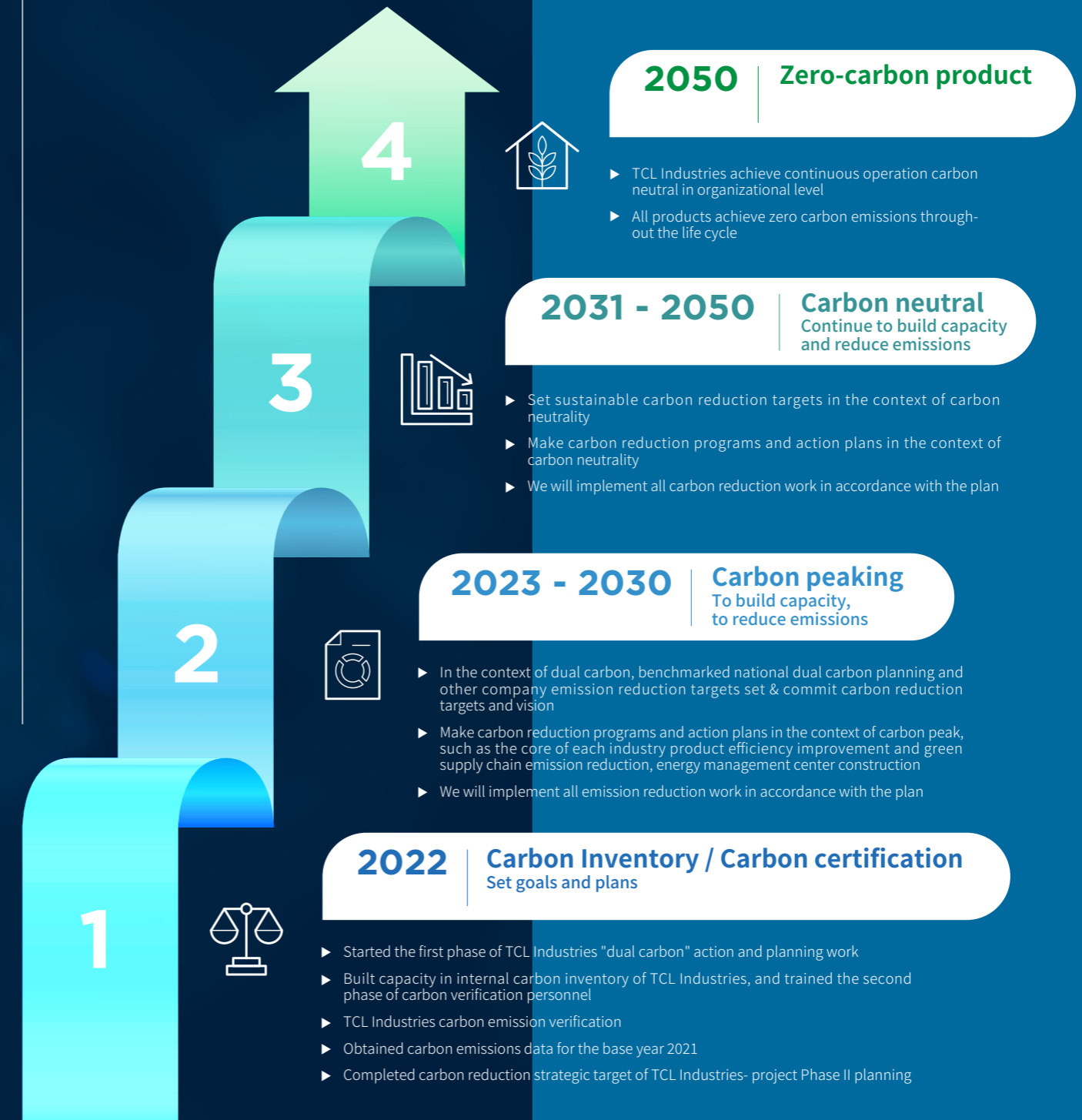
To achieve "dual carbon" goal, China has accelerated the implementation of comprehensive actions. At the national level, it has set up a leading body for peak carbon dioxide emissions and neutralization, coordinated the top-level design of the dual-carbon program, issued the Opinions on Fully, Accurately and Comprehensively Implementing the new Development Concepts for Peak Carbon Dioxide Emissions and Carbon Neutrality, and the Action Plan for Peak Carbon Dioxide Emissions before 2030, and formulated and introduced an implementation plan for carbon peaking in key sectors such as energy, industry, and transportation, and in key industries such as coal, oil, natural gas, and steel, as well as support and guarantee plans for science and technology, finance, green finance, pollution reduction and carbon reduction, and personnel training, which will establish a "1+N" policy system for carbon dioxide peaking and carbon neutrality.

4.2 TCL Industries helps the implementation of the "dual carbon" strategy

TCL Industries is a Chinese national enterprise with global influence. In response to China's "dual carbon" strategy, we have defined a "three-step plan" to advance the "dual carbon" work in a sound and orderly manner, and set up a working group to address climate change, which has made remarkable achievements in driving the green transformation and upgrading of TCL's various industries and manufacturing industries. At the level of its own operation, TCL has taken multiple measures to promote carbon emission reduction, giving full play to its technological innovation advantages. Relying on innovative technologies and focusing on energy-saving transformation, it will continue to promote the research and development of green manufacturing processes and the energy-saving of technology common facilities. At the level of the whole value chain, starting from the dimensions of green design, green supply chain, green manufacturing, green logistics, green packaging, green marketing and service, green recycling, the upstream and downstream industrial chain is guided and driven to jointly achieve low-carbon development, and contribute to the high-quality development of China and the world economy. In terms of system construction, relying on digital technology, the low-carbon energy management system should be established and improved in an all-round way to realize a visible, controllable and intelligent management platform, which give full play to TCL's benchmarking role.

Achieve "carbon neutrality" planning at the organizational and product levels

Combine with China's 14th Five-Year Plan, adopt a more robust way to recommend projects



Management Organizational structure of TCL Industries Working Group on Climate Change



* Note: SCQSC is the abbreviation of Supply Chain and Quality Safety Center



Exploration and practice in green and low-carbon environmental protection

Finally, TCL Industries has established an ecological and green environmental protection system and won the first carbon label evaluation certificate of Electrical products in China and the first evaluation certificate with carbon label of Electrical products in Guangdong Province. TCL Industries's factories have won top green certifications such as green supply chain, green factory and green design products.

Affiliated enterprise	Company name	Name of qualification	Level of qualification	Department of Award	Award time
Communication	Huizhou Tcl Mobile Communication Co., Ltd.	The first batch of green manufacturing demonstration - Green Factory	National level	General Office of the Ministry of Industry and Information Technology	August 2017
White home appliance	TCL Household Electric Appliance (Hefei) Co.,Ltd.	Miit (Ministry of Industry and Information Technology)- Green Factory	National level	Ministry of Industry and Information Technology	October 2018
Air conditioner	TCL Air-Conditioner (Zhongshan) Co., Ltd.	Green Factory	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	February 2018
Communication	JRD Communication	Green channel enterprise	District level	People's Government of Shenzhen Nanshan District	June 2018
White home appliance	TCL Household Electric Appliance (Hefei) Co.,Ltd.	Anhui Green Factory	Provincial-level	Economy and Information Department of Anhui Province	August 2018
Electron	TCL Ace Electrical Appliances (Huizhou) Co., Ltd.	The fourth batch of green factories	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	August 2019
Environmental Protection	TCL-AOBO Environmental Protection and Development Co., Ltd.	The fifth batch of green factories	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	September 2020
TONLY	TONLYTechnology Holdings Limited	The fifth batch of green factories	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	September 2020
White home appliance	TCL Household Electric Appliance (Hefei) Co.,Ltd.	Three models of national green products	National level	Ministry of Industry and Information Technology	July 2019

Affiliated enterprise	Company name	Name of qualification	Level of qualification	Department of Award	Award time
Air conditioner	TCL Air-Conditioner (Zhongshan) Co., Ltd.	Green supply chain management enterprise	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	September 2020
White home appliance	TCL Household Electric Appliance (Hefei) Co.,Ltd.	XQG100-123071HB Green product for drum washing machine	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	September 2020
Electron	TCL Ace Electrical Appliances (Huizhou) Co., Ltd.	10 green design products	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	September 2019
Electron	TCL Ace Electrical Appliances (Huizhou) Co., Ltd.	10 green design products: 65C66、55Q6、55Q8/55P8/55C68 /65P8/65C68/65Q8/55C66/65Q6	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	September 2020
Electron	TCL Ace Electrical Appliances (Huizhou) Co., Ltd.	Ten green design product	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	December 2021
Communication	Huizhou Tcl Mobile Communication Co., Ltd.	"Hong Kong/Guangdong Cleaner Production Partner" logo	Provincial-level	Department of Industry and Information Technology of Guangdong Province, Environment Bureau of Hong Kong Special Administrative Region Government	December 2021
Electron	Shenzhen TCL New Technology Co., Ltd.	2021 Guangdong Electronic Information Industry Science and Technology Award (First prize for Scientific and technological progress: ultrafine silver powder for intelligent devices and its printability)Brush silver paste material and green manufacturing process and application technology)	Industry level	Guangdong electronic Information Industry Association	December 2021
Communication	Huizhou Tcl Mobile Communication Co., Ltd.	First prize of Science and Technology Progress Award of Electronic Information Industry of Guangdong Province in 2021 (Smart devices with ultra-fine silver powder and printable silver paste materials and green Manufacturing process and application technology)	Industry level	Guangdong electronic Information Industry Association	December 2021
Air conditioner	TCL Air-Conditioner (Zhongshan) Co., Ltd.	Four green product design	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	December 2021
White home appliance	TCL Household Electric Appliance (Hefei) Co.,Ltd.	One green product design	National level	Department of Energy Conservation, Ministry of Industry and Information Technology	December 2021
Environmental Protection	TCL Environmental Protection Technology Co., Ltd.	First prize of Science and Technology Progress Award of Electronic Information Industry of Guangdong Province in 2021 (Smart devices with ultra-fine silver powder and printable silver paste materials and green Manufacturing process and application technology)	Industry level	Guangdong Electronic Information Industry Association	December 2021
Industries Holdings	TCL Industries Holdings	The fourth batch of industrial product green design demonstration enterprises	National level	Miit	October 2022
Getech	Getech (Shanghai) Industrial Intelligent Technology Co., Ltd.	Shanghai green and low-carbon service agency	Municipal level	Shanghai Economic and Information Commission	August 2022

A large field of solar panels under a clear blue sky. The panels are arranged in rows, and the perspective is from a low angle, looking across the field towards the horizon. The sky is a deep blue with some light clouds. The overall scene is bright and clear.

5

Determine carbon
neutral path planning,
clear net-zero emission goal

5.1 Anchor base years to identify base emissions

In 2021, carbon emission intensity for TCL Industries [carbon emission intensity = total carbon emission of the current period/revenue of TCL Industries in the current period] is 723.76 tons of CO₂e/ 100 million yuan. After six months of comprehensive inventory by the team, the main components are as follows:

Scope of emissions	Emission intensity (ton CO ₂ e/ billion yuan)	Ratio (%)
Scope 1	419.91 ¹	58.02
Scope 2	303.85 ²	41.98
Total	723.76	100

Scope 1: which refers to greenhouse gas emission sources directly emitted within the physical boundary of TCL's activity area, such as carbon dioxide generated by burning fossil fuels, methane leaking from oil and gas system, etc.

Scope 2: which refers to greenhouse gas emission sources indirectly emitted by TCL Industries that do not directly occur within the scope of physical boundaries, such as greenhouse gas emissions from the production and consumption of power, steam, hot water and other energy sources.

¹ 2021 scope 1 total emissions/total revenue 2021

² 2021 scope 2 total emissions/total revenue 2021

Based on the basic carbon emission data of TCL Industries in 2021 (summary of carbon emission inventory data) and "30.50" target of carbon neutral, the revenue prediction model for revenue and emission reduction measures are constructed to predict the total emission, structural characteristics and carbon emission intensity in 2050 by using different emission reduction measure.



5.2 We will make overall plans to set the "30. 50" dual-carbon targets

2030 Target (Carbon peak)	2030 Target (Carbon neutral)
Reduce carbon emission intensity by 23.4% ³ from the base year	Reduce carbon emission intensity by 75.4% ⁵ from the base year
Non-fossil fuels account for 23% ⁴ of total energy use	Non-fossil energy accounts for 80% ⁶ of total energy use

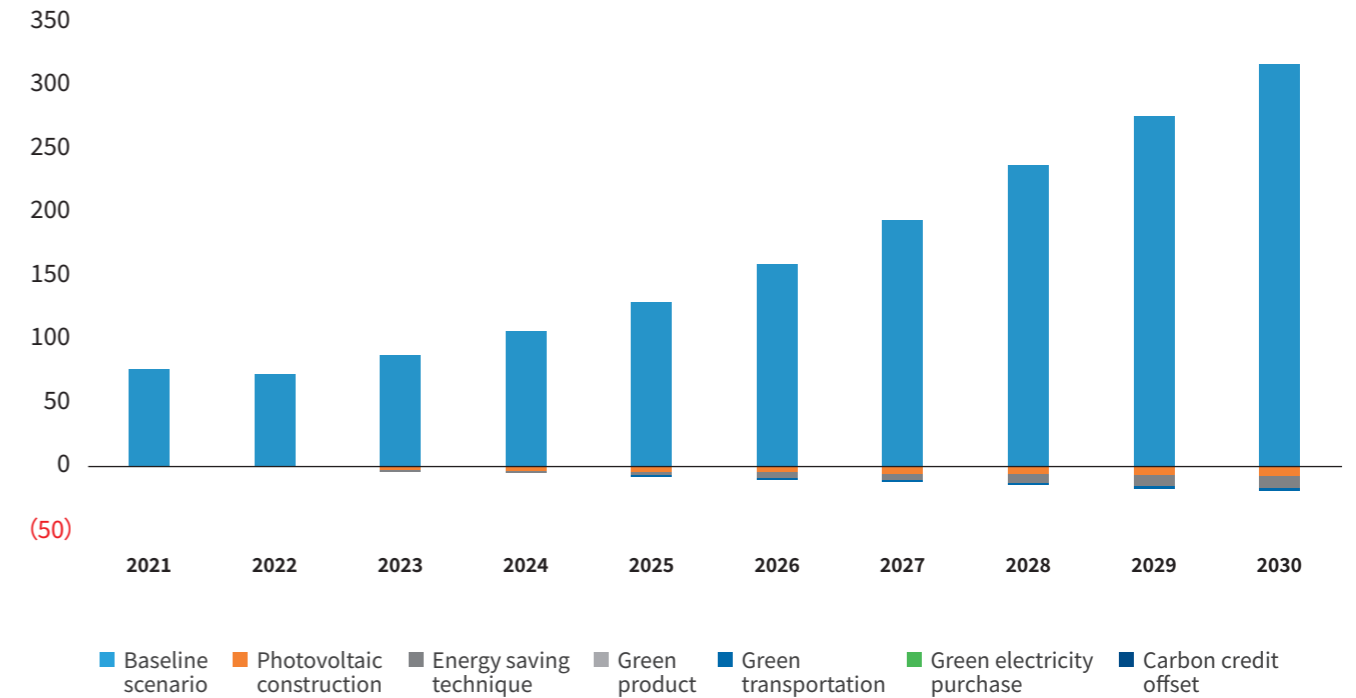
³ The target is based on the premise that "by 2030, China's carbon dioxide emissions per unit of GDP will be reduced by more than 65% compared with 2005, the proportion of non-fossil energy in primary energy consumption will reach about 25%, and the total installed capacity of wind and solar power will reach more than 1.2 billion kW." Assuming that the Group plans to reduce emissions by an equal percentage (2.6%) per year based on 2021, it is expected that the carbon emission intensity in 2030 will be reduced by 23.4% compared with 2021.

⁴ This target is set independently with reference to the overall target of the national energy structure in 2030.

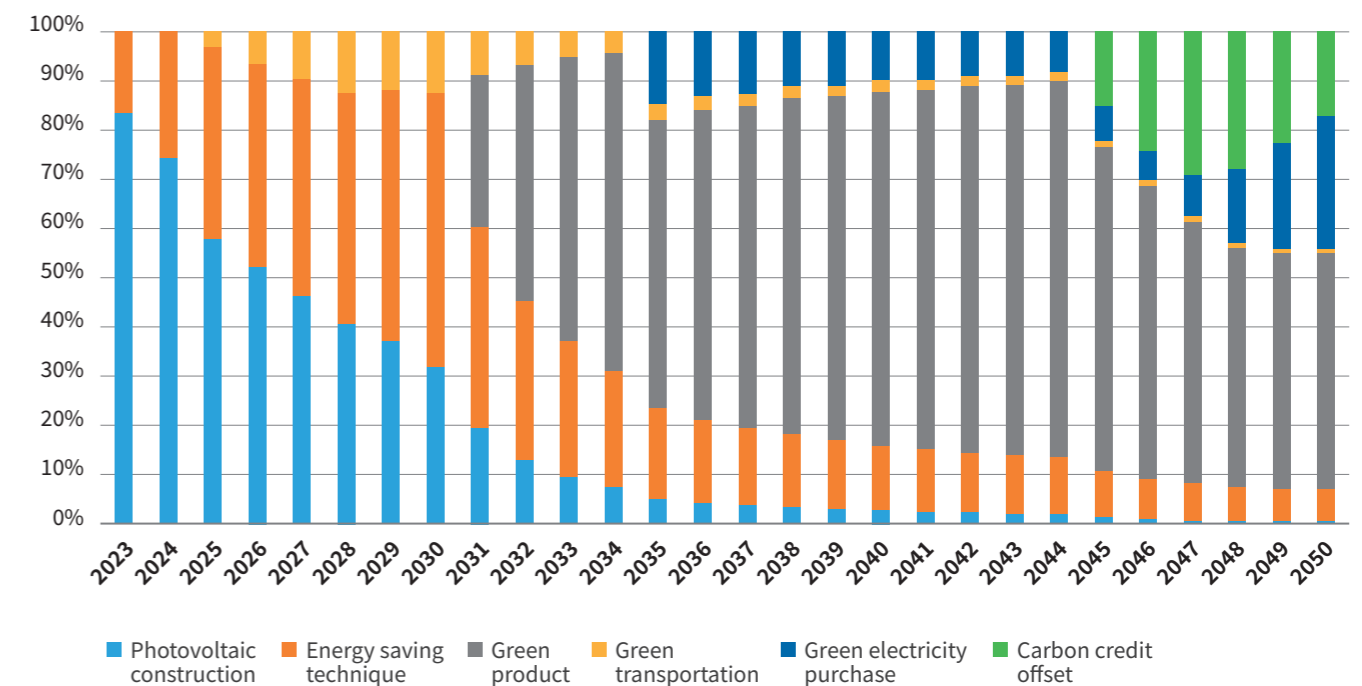
⁵ The target is based on the premise that "by 2030, China's carbon dioxide emissions per unit of GDP will be reduced by more than 65% compared with 2005, the proportion of non-fossil energy in primary energy consumption will reach about 25%, and the total installed capacity of wind and solar power will reach more than 1.2 billion kW." After 2030, assuming that the Group still plans to reduce emissions by an equal proportion (2.6%) per year based on 2021, it is expected that the carbon emission intensity in 2050 will be reduced by 75.4% compared with 2021.

⁶ This target is based on the prediction that the proportion of renewable energy in the national energy mix will be 80% in 2060.

Emission reduction by reduction measures made by TCL Industries (unit: 10,000 tons of carbon dioxide equivalent)



Proportion of emission reduction of each TCL Industries' s measure



5.3 Exploration in emission reduction path at multi-angle, and search for the optimal strategy.

In order to develop a scientific emission reduction path, carbon emissions are briefly classified into internal emissions and external emissions according to whether TCL Industries can actually participate in control, management and guidance with its emission. Internal emission reduction refers to the emissions TCL can directly control or influence, such as improving the production process, adopting clean energy, promoting low-carbon lifestyle and other measures. External emission reduction refers to emissions that the group cannot directly control or influence, such as emissions of other enterprises in the supply chain, and emissions from customers who using products.

Strong internal emissions scenarios

In strong internal scenarios, more attention is paid to self-restraint and management to reduce carbon emissions. Under this scenario, we will focus on strengthening energy management within the group's workplace, such as energy efficiency in the daily production and office processes of the group. The company carry out low-carbon design and manufacturing for products, and plan to further focus on raw materials with low-carbon feather, low-carbon production process and low-carbon packaging; Develop more energy efficient products and emphasize the energy savings of our products at the use stage.

Scope of emissions	Base year ⁷	Target year ⁸
	Emission intensity (ton CO ₂ e/ billion yuan)	Emission intensity (ton CO ₂ e/ billion yuan)
Scope 1	419.91	125.00 ⁹
Scope 2	303.85	47.00 ¹⁰
Total	723.76	172.00

- ⁷ The base year is 2021
- ⁸ The target year is 2050
- ⁹ In strong internal scenario, estimated total emissions of scope 1 in 2050 / estimated total annual revenue in 2050
- ¹⁰ In strong internal scenario, estimated total emissions of scope 2 in 2050 / estimated total annual revenue in 2050

Strong external emissions scenarios

In a strong external scenario, we expect to work with upstream and downstream partners to promote the carbon reduction of products and services. Under this scenario, we give priority to the establishment of a supply chain management system. That is the establishment of incentive mechanism that is ecological chain emission reduction performance evaluation, and cooperation in low-carbon technology research and development and innovation; At the same time, the company consider to expanding the recycling system of resources, namely, the recycling of raw materials, step utilization or remanufacturing, energy recycling, etc.

Scope of emissions	Base year ¹¹	Target year ¹²
	Emission intensity (ton CO ₂ e/ billion yuan)	Emission intensity (ton CO ₂ e/ billion yuan)
Scope 1	419.91	126.00 ¹³
Scope 2	303.85	47.00 ¹⁴
Total	723.76	1730

- ¹¹ The base year is 2021
- ¹² The target year is 2050
- ¹³ In strong external scenario, estimated total emissions of scope 1 in 2050 / estimated annual total revenue in 2050
- ¹⁴ In strong external scenario, estimated total emissions of scope 2 in 2050 / estimated total annual revenue in 2050

Inside and outside the synergy emissions scenarios

Under the scenario of internal and external collaboration, we will pay more attention to the positive effects of the collaboration between internal and external supply chains. For example, the evaluation incentive mechanism of supply chain emission reduction should be built closely around the goal of product with low-carbon design, and priority should be given to product design and manufacturing centering on resource recycling and reusing.

Scope of emissions	Base year ¹⁵	Target year ¹⁶
	Emission intensity (ton CO ₂ e/ billion yuan)	Emission intensity (ton CO ₂ e/ billion yuan)
Scope 1	419.91	25.00 ¹⁷
Scope 2	303.85	9.00 ¹⁸
Total	723.76	34.00

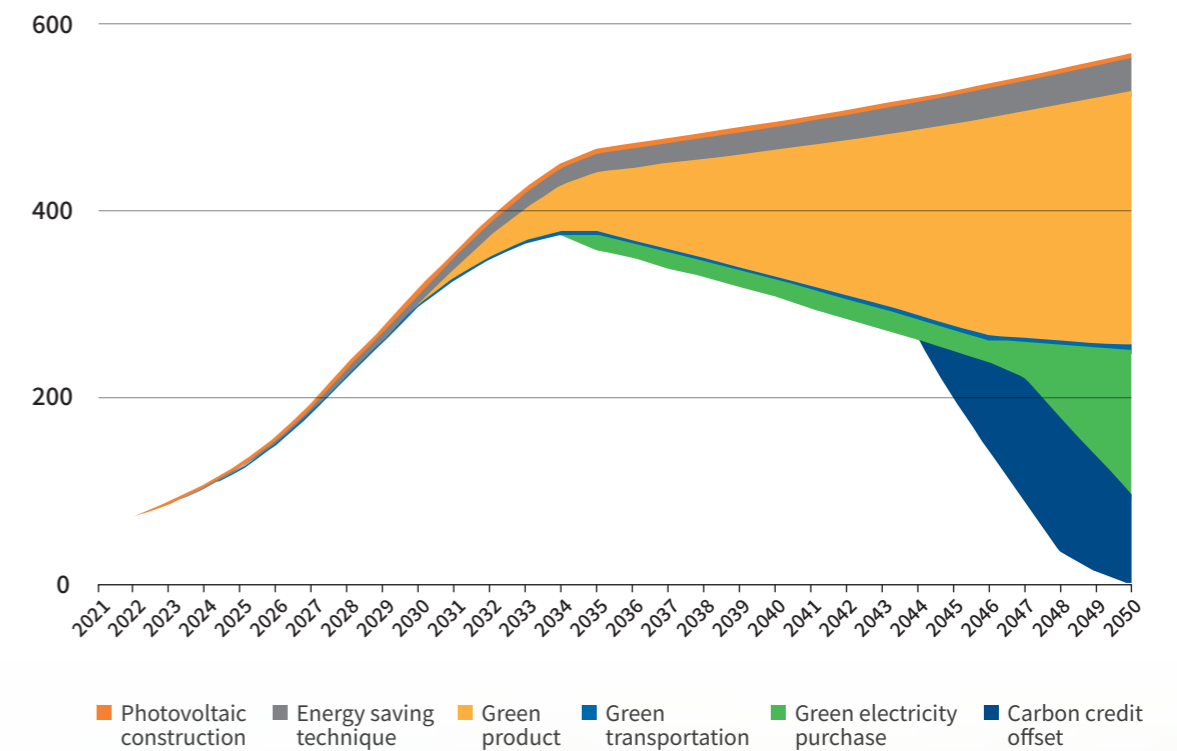
¹⁵ The base year is 2021

¹⁶ The target year is 2050

¹⁷ In the internal and external strong scenario, estimated total emissions of scope 1 in 2050 / estimated total annual revenue in 2050

¹⁸ In the internal and external strong scenario, estimated total emissions of scope 2 in 2050/ estimated total annual revenue in 2050

TCL Industries Greenhouse Gas Emission Forecast (unit: 10,000 tons of carbon dioxide equivalent)



The superposition of focus in different emission reduction scenarios will result in different emission reduction paths. It is not difficult to find that. In the context of emission reduction planning of TCL Industries, only internal low-carbon transformation and cooperation with supply chain partners are the two key points that we need to pay attention to and take measures to achieve carbon emission reduction goals. TCL Industries promises to achieve carbon peak in 2030 and carbon neutrality in 2050. "To provide customers with low carbon/net zero carbon emission green products" is an important strategy for the sustainable development of TCL Industries; In order to achieve the 1.5°C emission reduction target that is corporate responsibility, TCL will take more active measures to work with its eco-chain partners in low-carbon transformation, create a more sustainable and competitive green ecological environment, and make positive contributions to the global response to climate change under the leadership of China.



6

**Green-oriented development,
multiple measures to promote
carbon emission reduction**

Under the background of dual carbon, TCL Industries actively plays a pioneering role in energy conservation and carbon reduction, giving full play to its technological innovation advantages, and promoting the company's low-carbon transformation of manufacturing base and operation site. At the same time, relying on the synergistic advantages of TCL's industrial chain, TCL will focus on the photovoltaic and smart energy fields, accelerate the layout of distributed photovoltaic circuit, and help enterprises to reduce carbon efficiently and save energy.

6.1 Innovate technology and enhance energy efficiency

In terms of innovation and technology, TCL Industries has been awarded the first batch of national technology innovation demonstration enterprises, national technology center and national industrial design Center by the Ministry of Industry and Information Technology. Meanwhile, TCL Industries has also undertaken the "Development and Application Demonstration of key technologies of Quantum Dot backlight" and the integration project of green manufacturing system of Ministry of Industry and Information Technology.

Case: TCL Color TV innovates energy saving technology

A. LCD TV backlight control system and method (won China Patent Gold Medal) : the technical solution effectively inhibits the impact on vision when the picture light and dark frequently change, and can save about 40% of power consumption while improving the picture quality;

B. Hybrid dimming technology: TCL specially developed a hybrid dimming technology that integrates DC dimming and PWM dimming, which can intelligently adjust the working mode of the backlight system through the dynamic analysis of the current picture brightness, so that the picture will not flicker, but also improve the picture quality and save energy around 5%-15%. It has been fully applied in intelligent products in China since 2019.

C. Direct drive LED backlight combined with large chip package: it can improve the utilization efficiency of backlight source for more than 18%;

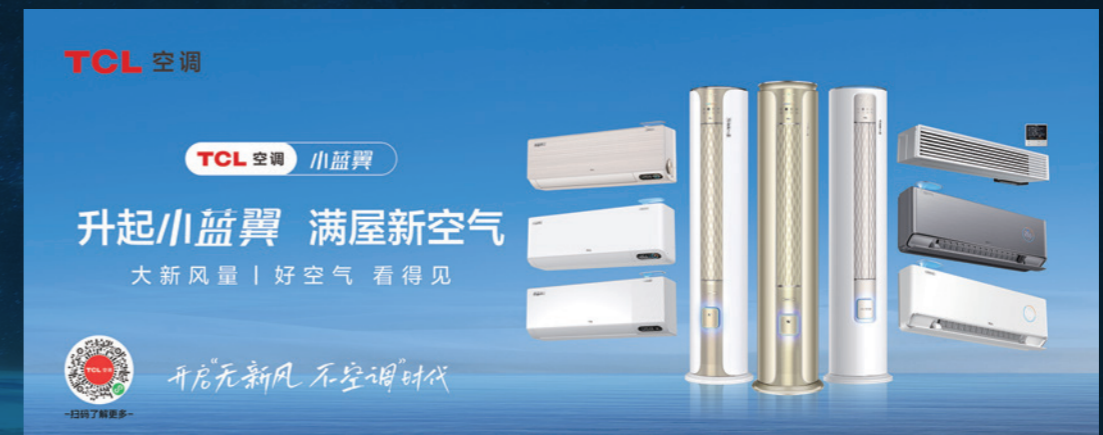
D. Dynamic voltage frequency adjustment technology: it improve the high-speed response of the system while reducing the system energy consumption, and reducing the heat loss of the chip;

E. Intelligent Boots drive technology can significantly increase maximum brightness without increasing normal power consumption, thus achieving energy saving and environmental protection while improving picture quality;



Case: TCL air conditioning innovates energy saving technology

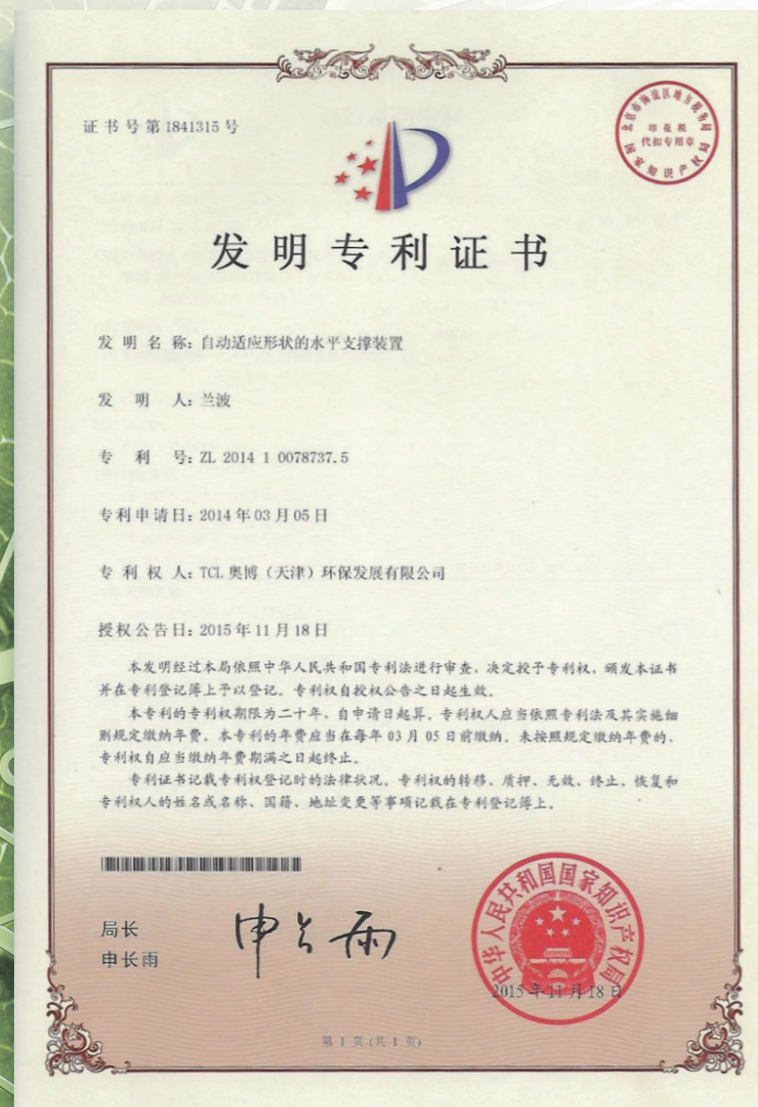
TCL has gradually phased out air conditioning products with low energy efficiency and launched air conditioning products with low power and energy-saving properties that have been certified as green and low-carbon electrical appliances, so as to provide consumers with more low-carbon products. In terms of technology, the air conditioning products have 5 internationally leading fresh air technologies, including Daxin air volume low noise technology, new efficient frequency conversion technology, frequency conversion with energy saving and electricity visualization technology, intelligent soft air technology, temperature strong cooling technology in outdoor with 60°C, etc.



Energy Conservation

Case: PCB low temperature physical grinding separation component technology -- TCL Aobo

In the PCB treatment process, we independently developed the "PCB low-temperature physical grinding separation components technology", which is a domestic initiative. Compared with the traditional hot scalding process in China, the one-time input of the equipment is equal, but the treatment efficiency is increased by about 20%, the labor is reduced by about 50%, the energy consumption is reduced by about 30%, and PCB, components and other components are all effectively recycled. The resource utilization rate is 100%. The separated bare board does not need to be broken any more, and the components can be comprehensively utilized according to the demand, which is included in the advanced applicable technology of "waste free city".



6.2 Energy saving can help carbon reduction transformation

TCL Ace, a subsidiary of TCL Industries, is a key energy user in Huizhou, Guangdong, China. In order to achieve the goal of "dual control" in energy conservation, the company actively promotes the energy conservation technology transformation of infrastructure and general equipment.

Energy conservation in infrastructure

1. Architecture: TCL studies BIPV design scheme to create green and low-energy buildings. Through the integration of photovoltaic and buildings, on the one hand, photovoltaic tiles installed on the roof can absorb solar energy into electric energy, which greatly reduces the overall outdoor temperature, decreases wall heat and indoor air conditioning cooling load, and plays a role in energy saving of building. On the other hand, it can provide green energy for enterprises, improve the proportion of green electricity for enterprises, and help with green transformation. In addition, the buildings in the factory adopt steel structure, concrete shelving structure, brick and concrete structure and other building structures with little impact on the environment. The building materials used in the factory are local building materials with low energy, high performance and high durability.

2. Afforest: Some workshops in the factory are equipped with corridors that can provide shade and shelter from rain. The greening of the factory is mainly to plant lawns, and the greening plants are mainly eubrium ball and eubrium hedge, which are native plants that can effectively reduce the daily maintenance costs. Carbon sequestration by greening is one of the main ways to mitigate climate change.

3. Energy: In terms of power operation and maintenance, the company has introduced an intelligent meter reading platform. Through the digital and intelligent platform, intelligent operation and maintenance can replace manual, and can real-time monitor equipment current, voltage, power, power factor, electricity, etc.

4. The usage of renewable energy: The plant uses ground source heat pump air-conditioning system for heating and cooling, making full use of geothermal energy, a renewable energy source. According to the scheme of ground source heat pump air-conditioning system, the use of ground source heat pump air-conditioning system can save more than 50% of the annual power consumption compared with the use of electric refrigeration air-conditioning system.

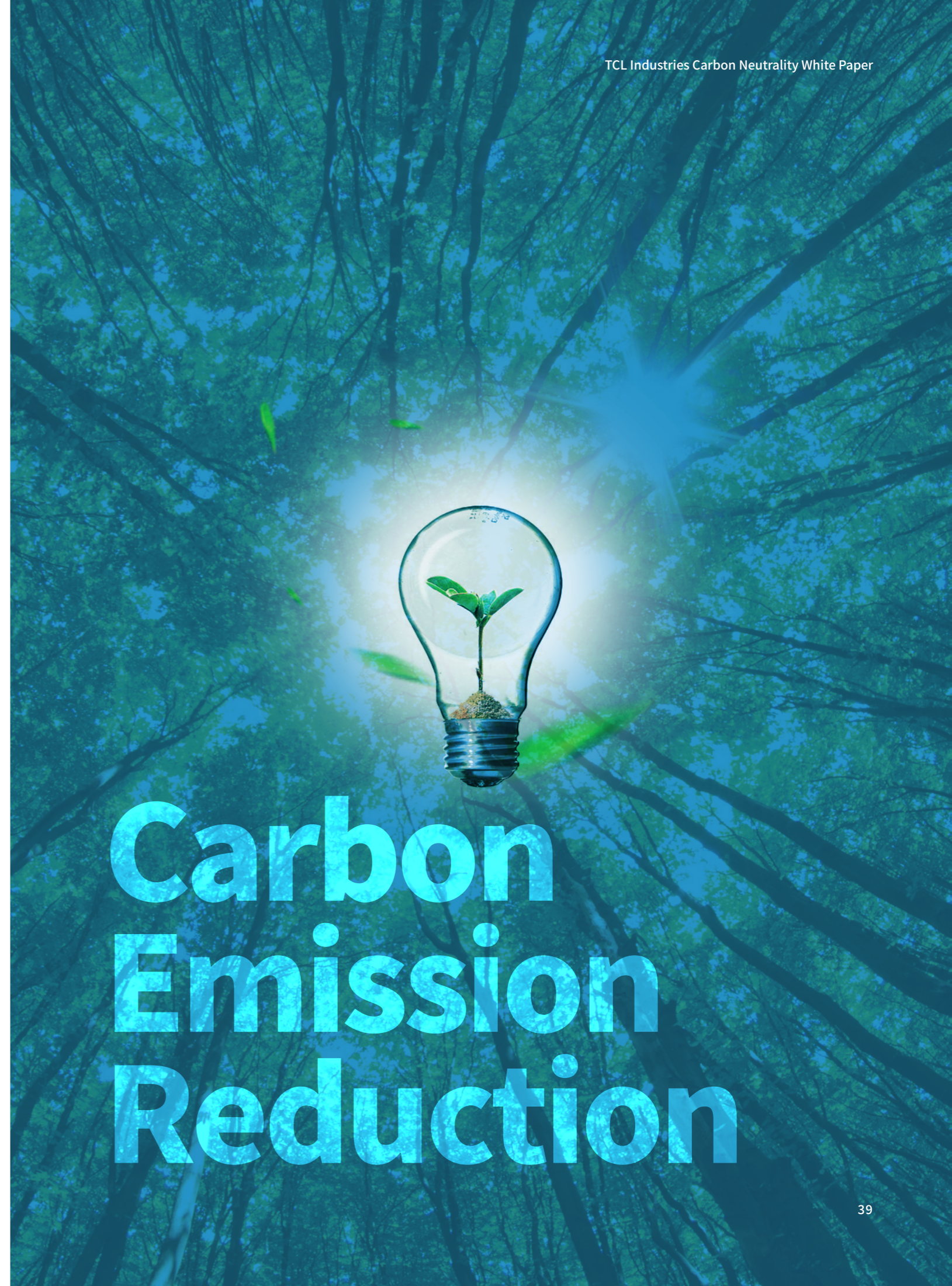
5. Lighting: The lighting in the factory buildings is in line with the regulations of GB50034, and according to different lighting places for graded design. The factory follows the principle of using natural light to the maximum extent. The workshop adopts high and low side windows, and sets up two rows of Windows on the side wall of the workshop to maximize the use of natural light. At the same time, the skylight is set on the roof, which not only improves the lighting effect of the workshop, but also improves the uniformity of the workshop's light.

General equipment

Based on the actual energy management situation of the company, the hydropower and energy consumption used by all departments were analyzed and summarized. The experience of energy and greenhouse gas emission management was sorted out, and the new technology, new equipment and new methods were actively adopted to manage and transform the energy equipment of the company, which effectively reduce greenhouse gas emissions. With the help of SGS, we have completed the energy saving diagnosis and carbon reduction calculation in 2022. Through the energy-saving technical transformation of cooling system, the feeding system transformation of injection molding machine, the intelligent transformation of production line, the utilization of waste heat and the intelligent cloud control system, it is estimated that the annual energy saving will reach 10,798,600 KWH and the annual greenhouse gas emission reduction will reach 8,886.55 tons of carbon dioxide.

Action: internal energy conservation and measures on carbon reduction of TCL

Number	Project name	Content	Energy saving (degrees, tons, etc. / year)
1	Energy-saving technical reform of cooling system	Mobile Communication (Huizhou) - Formulate the operation mode of cooling tower at different ambient temperatures, and timely adjust the hydraulic balance	1,977,900 kWh/ year
		TCL Air Conditioner (Wuhan) - The cooling water pump is controlled by frequency conversion	
		TCL Ace Electrical Appliances(Huizhou) - According to the outdoor temperature and humidity, reasonably open the cooling tower fan	
2	Vacuum transformation of SMT mounter	TCL Tonly - Switch to vacuum pump and save power for air compressor.	180,200 kWh/ year
3	Energy saving transformation of injection molding machine	TCL Tonly - Molding Center replaces energy saving injection molding machines	394,500 kWh/ year
		TCL White Household Appliances - Upgrading the energy-saving nano heating ring: Injection molding machine is the main equipment used in the department of injection molding. Electric heating is the largest proportion of energy consumption of injection molding machine. After practical testing, 850T injection molding machine, in the same climate conditions, produce of the same product with energy consumption of 70 degrees/day. When it transformed into a energy-saving nano heating ring, energy consumption is 36 degrees/day. Power saving rate is 48.6%	430,000 KWH/ year
4	Energy-saving technical reform of dryer	TCL Tonly - New energy-saving dryer was introduced: The integrated machine replaces two air-blast heating adsorption dryers, which can save 6900kWh monthly on average	85,000 kWh/ year
		TCL White Household Appliances - Replace frequency conversion control system: 13 ordinary plastic particle dryers were injected molding and use fixed-frequency fan to heat. That is a waste of energy. By changing the frequency conversion control system, it can match the fan speed according to the required temperature to save energy	240,000 KWH/ year
5	Central air conditioning system optimization	Central air conditioning software upgrade, and optimize the operation of air conditioning system; Add automatic control system and energy efficiency monitoring to realize automatic operation adjustment and real-time monitoring	306,800 kWh/ year
6	Compressed air energy saving technical reform	TCL Tonly - Cloud intelligent control solution for Compressed Air System: Through digital station, intelligent control and overall energy saving, the energy-saving upgrading from single equipment to the whole station is completed	229,800 kWh/ year
		TCL White Household Appliances - Air compressor replaces two-stage compression low-energy equipment	1.7 million KWH/ year



Carbon Emission Reduction

6.3 Adopt targeted policies to layout distributed photovoltaic roadmap fastly

To achieve the goal of dual carbon is a broad and profound economic and social systemic reform, and the adjustment of energy structure is a key factor of the reform. As a strategic emerging business of TCL Industries, TCL Photovoltaic integrates the upstream and downstream of the industrial chain, improves the supply chain system, and builds a new photovoltaic ecology through the concept of integrated innovation, collaborative innovation, and joint innovation, so as to provide guarantee for the business, improve the quality of power stations, improve the profits for users, and realize the horizontal and vertical expansion of the photovoltaic business.

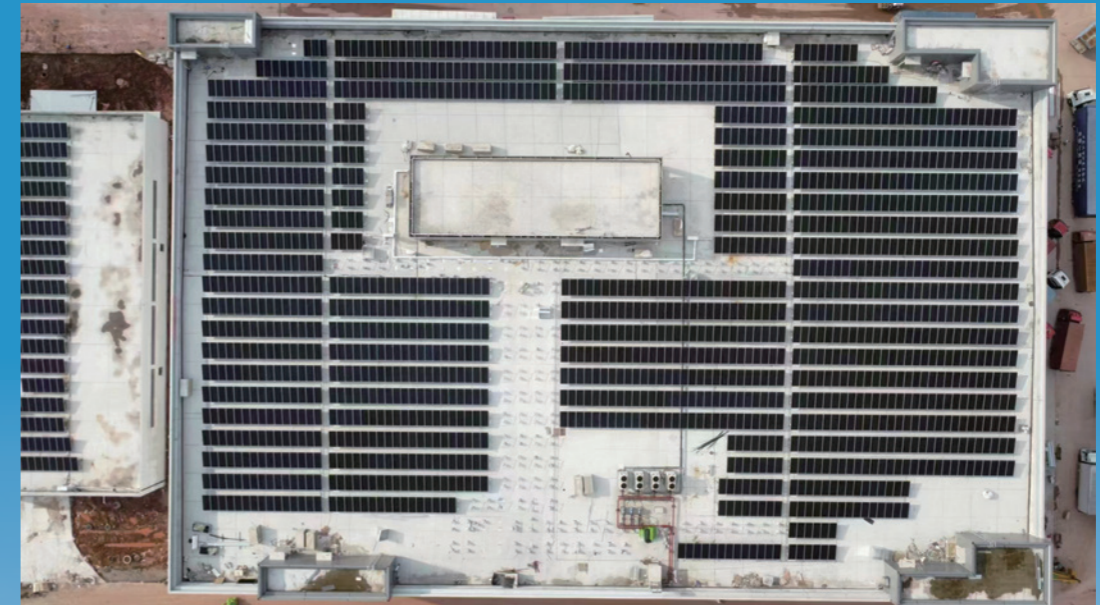
Case: Huizhou TCL Mobile Communication Co., Ltd. 3.168MW distributed photovoltaic project

Located in Huizhou, Guangdong Province, the project used the roof of the factory of Huizhou TCL Mobile Communication Co., Ltd. to build a distributed photovoltaic power generation project. The project capacity is 3.168 MW, and the mode of self-use and surplus Internet access was adopted. The project has been connected to Internet in September 2022. The project is expected to generate 3 million KWH of clean electricity annually, reducing emissions by approximately 2,442 tCO₂e per year.



Case: Maojia Technology (Guangdong) Co., LTD., 5.96 MW distributed photovoltaic power generation project

Located in Huizhou city, Guangdong Province, the project used the roof of the factory of Maojia Technology (Guangdong) Co., LTD. to build a distributed photovoltaic power generation project. The project is a BIPV/BAPV hybrid project, and its capacity is 5.96 MW. The mode of self-use and surplus Internet access was adopted. The project is expected to generate 6.12 million KWH of clean electricity annually, reducing emissions by approximately 4,982 tCO₂e per year.



Case: Huizhou China Star Photoelectric Co., LTD, 9.4259 MW distributed photovoltaic power generation project

Located in Huizhou, Guangdong Province, the project uses the roof of TCL Huizhou Huaxing Photoelectric Display Co., Ltd. factory to build a distributed photovoltaic power generation project. The project capacity is 9.4259 MW, and the mode of self-use and surplus Internet access was adopted. The project is expected to generate 7.720,800 KWH of clean electricity annually, reducing emissions by about 6,285 tCO₂e per year.



Case: 3.641MW distributed photovoltaic power generation project in Xuyang Industrial Park, Foshan, Guangdong

The project is located in Nanhai District, Foshan City, Guangdong Province, using the roof of the Foshan Xuyang Industrial Park plant to build a distributed photovoltaic power generation project. The project has a capacity of 3.641 MW and adopts the mode of self-use and surplus Internet access. The project is expected to generate 3,361,600 KWH of clean electricity annually and reduce emissions by approximately 2,736 tCO₂e per year. TCL PV Technology provides customers with a full life cycle intelligent energy management system from power station development, design, construction to operation and maintenance, and helps customers design green energy integrated solutions for zero-carbon parks.



6.4 We build a low-carbon energy control system to help enterprises in their green and low-carbon transformation

With the setting of China's "carbon peak & neutrality" goal, it has become an urgent task and development consensus for enterprises to reduce carbon emissions and build a low-carbon energy control system. Digital technology is an effective way for enterprises to establish an all-round energy management system and realize energy conservation and emission reduction in the context of "carbon peak & neutrality" and sustainable development.

6.4.1 Construction of energy management platform

Through the monitoring, analysis, operation and maintenance of energy consumption data, combined with AI intelligent analysis, industrial enterprises can realize the collection, storage, prediction, energy-saving diagnosis, optimization control and comprehensive management of energy data, and build a set of intelligent management system of visible, known energy consumption, so as to realize the transformation of energy structure. Through rich functional blocks, a complete and sustainable value closed loop of PDCA energy management system is formed, enabling energy saving and green transformation.

Case: Getech builds energy carbon management platform for TCL air conditioning

Through the construction of energy carbon management system, identifying and optimizing energy-saving scenarios, carrying out a series of energy saving and emission reduction measures and optimizing management, TCL air conditioning has achieved 10% savings in power consumption, and reduced total energy consumption and carbon emissions by about 15%. This project has also been listed as an insight case of China industries Internet Energy Saving and carbon Reduction Excellent Practice by IDC.



(Giga-Guru奖)

6.4.2 Carbon management platform construction

On April 15, 2022, Getech, a leading integrated industrial Internet platform company in China and a subsidiary of TCL, released a new carbon management platform named GECMS. The carbon management platform covers organizational carbon, product carbon, carbon assets, emission reduction management, carbon trading and other application scenarios to support the construction of carbon management systems for enterprises and public institutions. The platform was built on the basis of the latest ISO 14064 and 24 industries standards of the National Development and Reform Commission and other domestic and foreign standards, with built-in multiple data sources to help build enterprise users' own accounting data model, which is a powerful accounting tool for enterprise digital inventory. Through the whole process of carbon data collection, carbon inventory and verification, we can cooperate with the internationally renowned certification agency SGS to complete the mutual recognition of data, reducing the verification cost by 50% for users.

Case: Getech preliminarily established carbon inventory and product carbon accounting system for a new energy battery enterprise

Getech takes Dongzhi Smart energy and carbon management platform as the carrier, based on the overall requirements of customer lighthouse factory benchmarking construction, builds digital energy management and carbon management applications for customers, and covers the whole process monitoring of energy and carbon emissions in multi-plant areas. Based on the green trade barriers faced by the lithium electricity industries, it provides carbon emission statistics, carbon inventory organization, product carbon footprint and other functions to improve enterprises' self-carbon management ability, which help enterprises cope with the trade crisis and green supply chain challenges, and realize the establishment of a preliminary carbon inventory carbon accounting system.



PLATFORM CONSTRUCTION

6.4.3 Refer to CDP climate questionnaire to improve the framework of low-carbon energy management

CDP is a non-profit international organization that pushes companies and cities around the world to disclose greenhouse gas emissions data and take action to reduce their impact on climate change. CDP works with more than 740 institutional investors with total assets of US \$130 trillion and more than 300 procurement companies around the world, leveraging the power of investors and buyers to motivate companies to disclose and manage their environmental impacts.

TCL Industries is committed to better managing its greenhouse gas emissions and taking measures to reduce its impact on climate change. In order to achieve this goal, TCL Industries refers to CDP questionnaire and starts from four dimensions of "governance - strategy - risk management - indicators and objectives" to comprehensively improve the energy and low carbon control framework. TCL Ace, TCL Communication and TCL Tonly, the three star factories of TCL Industries, actively participated in the disclosure of CDP's climate change disclosure questionnaire. TCL Tonly's "CDP rating" was upgraded from D in 2021 to B in 2022, and TCL's "CDP rating" was upgraded from C in 2021 to B in 2022. TCL Communication 's CDP rating was upgraded from D in 2021 to C in 2022.

Governance:

Climate change has been identified as one of the most important themes of corporate social responsibility. For this reason, TCL has set up a working group on climate change, which is divided into five sub-areas (see P12- Figure 1 for details). Since the establishment of the organization, it has gradually improved the carbon vision, carbon target, carbon verification, green carbon footprint design, green supply chain and other aspects. Key responsibilities of the working group include identifying, assessing and managing climate change-related risks and opportunities, as well as monitoring climate change management performance.

Strategies:

The Working Group on Climate Change regularly organizes departments to identify short, medium, and long-term climate-related risks and opportunities, including the following: 1. Policy and legal risks, such as those associated with the carbon emissions trading system, are assessed by the legal department and the Climate Change Working Group of each TCL business unit. 2. Technical risks are identified and assessed by the R&D and engineering departments of each company. 3. Market risks are continuously identified and assessed by our production and sales departments on a global scale. 4. Reputational risk is assessed by the company's corporate Social Responsibility department, and regular communication is conducted with NGOs and socially responsible investors to identify and assess risks/opportunities. In addition, TCL Industries identifies the impact of the following climate-related risks and opportunities on the organization's business, strategy and financial planning.

LOW CARBON MANAGEMENT



Type	Description of the impacts of climate-related risks and opportunities
Products and services	Many countries have regulatory requirements to improve the energy efficiency of household appliances, which extends from the European Union and the United States to other regions, and TCL provides dealers with products with energy efficiency certification, thereby improving market competitiveness
Supply chain	<p>Advantages: Promoting upstream suppliers to reduce emissions can reduce carbon emissions of products, help products enter the international market in Europe and the United States, and improve product competitiveness</p> <p>Disadvantages: Pushing upstream suppliers to reduce emissions may lead to higher procurement costs in the short term; However, with the promotion of the national carbon peak & neutrality policy, and more competitors to promote upstream emissions reduction, the proportion of suppliers will be more and more, and the long-term impact on procurement costs will be reduced</p>
R&D investment	If a product does not meet product efficiency regulations/standards, it may not be allowed to be sold and may not be procured by the government. Our products currently comply with various regulatory standards worldwide; However, we need to continue to take steps to keep up with and stay ahead of new regulations.

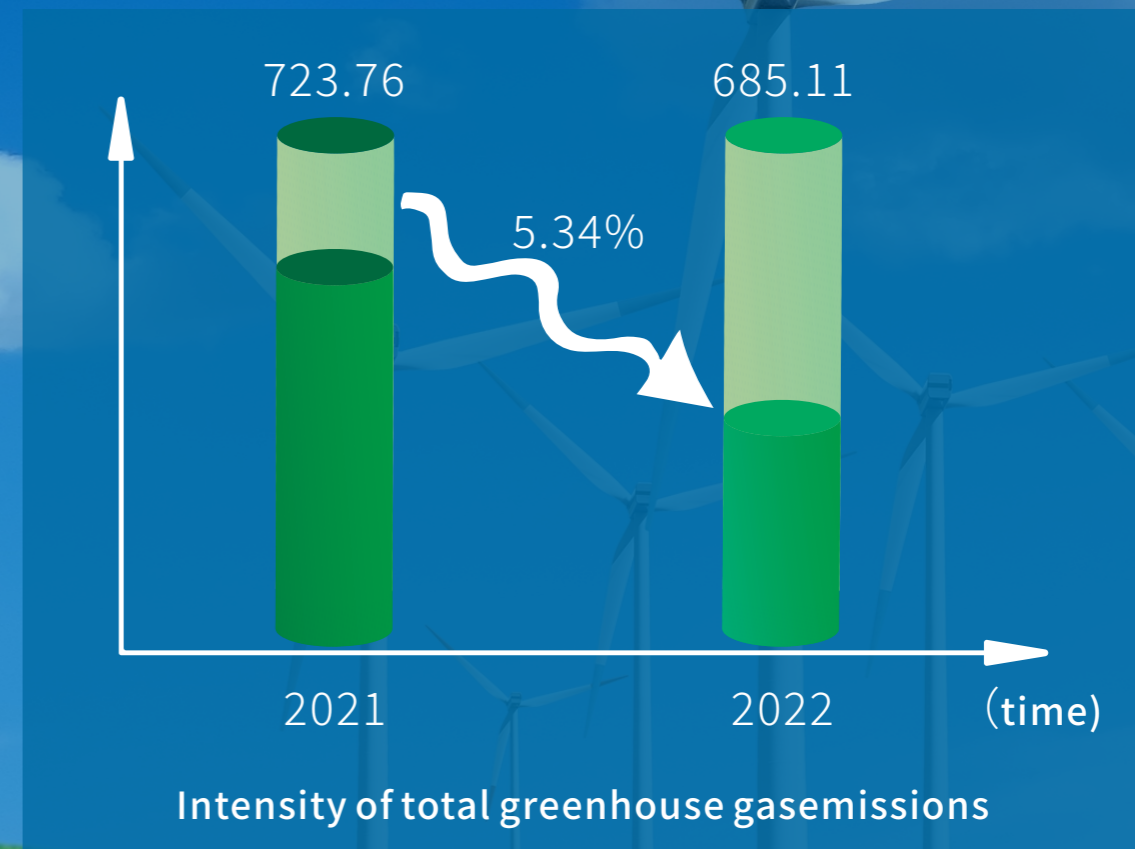
Risk Management:

All of TCL's major business units have established ISO14001 certified environmental management systems that take into account key aspects of addressing climate change issues through EMS systems when developing business objectives and strategies. In addition, TCL Industries evaluates climate-related risk types from multiple dimensions.

Existing law	We need to pay close attention to laws and regulations to meet the rigid requirements of national governments.
Emerging law	China has issued a long-term greenhouse gas emission control plan, including the establishment of a national carbon emission trading market in the future, which means that more of our business sites will be regulated by carbon trading regulation.
Technology	Consumers, customers and regulations are increasingly demanding product efficiency
Law	We need to pay close attention to laws and regulations to meet the rigid requirements of national governments.
Market	Customers will demand more energy efficient products and services as climate change presents an increasingly clear threat in the future. TCL anticipates that the company's commercial success will increasingly depend on the environmental awareness of its products/services and operations, and that corporate environmental initiatives may impact our sales.
Reputation	As customers become more environmentally conscious and stakeholders such as NGOs, investors and consumer groups keep a close eye on a company's environmental actions, a company's brand image can be degraded if it is not perceived as environmentally conscious.
Acute climate change	TCL's main production base and supply chain are located in South China and are at risk from extreme weather such as typhoons and floods, which may reduce our production capacity or delay our logistics. Climate change has increased the frequency of extreme weather, severely disrupted our operations and leading to our financial losses.
Chronic climate change	The continuous high temperatures have led to a higher frequency of air conditioning in both manufacturing sites and offices, and higher temperatures have also increased the unit price of electricity, especially the electricity we use in our cooling systems and machines, all of which have increased our operating costs.

Indicators and objectives:

TCL Industries carbon verification capability from "none" to "yes"; The greenhouse gas emission verification system of TCL Industries was initially established, laying a foundation for the company's carbon target, carbon reduction, carbon peaking and carbon neutral control system. TCL Industries has determined 2021 as the base year for greenhouse gas emissions and complete the greenhouse gas inventory every year since 2021. In 2022, it conducted carbon inventory for 41 enterprises under TCL Industries, outputting greenhouse gas emission inventory data and greenhouse gas emission certification verified by third-party certificates of 13 key enterprises; Among them, four core plants completed energy audits and output emission reduction reports and plans with the assistance of third parties. Thanks to internal energy diagnosis and energy-saving technological innovation, the greenhouse gas emissions of scope 1-to-2-unit intensity in 2022 is 5,383 g / 1000 yuan. Compared with 2021, the greenhouse gas emission intensity was reduced from 723.76 tons of CO₂e/ billion yuan to 685.11 tons of CO₂e/ billion yuan, a decrease of 5.34%.





7

TCL will play a leading role in promoting upstream and downstream enterprises to jointly reduce carbon

TCL Industries not only focuses on the low-carbon transformation of its own production and operation, but also plays a driving role as a hub to promote green and low-carbon activities throughout the value chain. In the process of operation and decision-making, TCL takes green development as the focus of sustainable supply chain construction. It takes green design, green supply chain, green manufacturing, green packaging, green logistics, green marketing and service, green recycling into consideration, and guides and drives the upstream and downstream industrial chains to achieve low-carbon development together.

7.1 Green design

Adhering to the concept of green, environment-friendly and low-carbon design in the whole life cycle of products, through the effective promotion of new product planning, research and development, special technical transformation and green manufacturing projects, TCL Industries has developed product green design schemes mainly from the following four dimensions.

01 Reducing the usage of raw materials and using renewable materials:

The raw materials are recyclable: engineering plastics and metals, which can be reused. All the raw materials used by our company that meet the requirements of the European Union RoHS (Directive on the Restriction of the Use of Certain Harmful Ingredients in Electronic and Electrical Equipment).

Reduction or replacement of harmful substances: auxiliary materials involved in product design, development, manufacturing, assembly, installation, service and other processes fully comply with the requirements of the RoHS2.0 directive. That is to strictly control harmful substances such as lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers and phthalic acid.

Reduce non-environmental protection process: the appearance of plastic products adopts non-spraying materials and advanced injection molding process to achieve the appearance effect of highlight, wire drawing, etching, avoid non-environmental protection of spraying and other post-treatment, to achieve green and environmental protection of products.

02 Reduce consumption of energy and resource:

Lightweight: BMS integrated machine scheme was adopted to integrate the structure of the whole machine and the screen module, and at the same time to realize the design scheme of plastic instead of steel, reducing the difficulty of assembly and achieving the lightweight design goal.

Cleaner production process and technology: Through the comparison of "Industrial Structure Adjustment Guidance Directory" the company compiled cleaner production audit report.

Green packaging: adopting energy-saving design of packaging materials, EPS consumption is reduced year by year.

JOINT CARBON REDUCTION

03 Energy and Resource efficiency:

Product energy efficiency and energy-saving design: Considering the requirements of resource efficiency, energy saving and environmental protection, the energy efficiency index of our products has generally reached level 2 or above, and the passive standby power is less than 0.5W. Our products have obtained the China Energy Saving Product Certification that issued by China Quality Certification Center.

Database, design tools, IT system, application transformation ability: the company establish efficient green design-related database and design tools, complete PLM, SAP, SRM, CRM and other management systems, which can be used in each process of product research, purchasing, production, marketing, service, thus realize life cycle management for products with green design application transformation ability including perfect inspection and verification, measurement testing and others.

04 Reuse and recycle:

Easy to reuse and disassemble: Our products meet the recycling index of EU directive WEEE (EU Directive on Waste Electronic and Electrical Equipment). The connection between the TV shell and the iron backplane, the fixing of the rubber frame and the backplane, etc., adopts the buckle structure to reduce the screw fixing, so that the disassembly of the product is convenient and fast when scrapped.

Harmless disposal: The company carries out recovery, transportation and comprehensive treatment of industrial hazardous wastes on the principle of "harmless, resource recovery and reduction". Industrial wastes are disposed of harmlessly by qualified companies.

Case: TCL leads consumption upgrading with product innovation -- fresh air conditioning for bedrooms

TCL bedroom fresh air conditioner adopts large diameter efficient air wheel and optimized design of blade profile and cross flow duct profile to realize efficient air distribution and greatly improve the energy efficiency of the whole air conditioner. TCL bedroom fresh air conditioner also has a high efficiency and energy-saving frequency conversion compressor, which operates in wide band and keeps the air conditioner running at constant temperature under ultra-low energy consumption. Equipped with high-efficiency throttling electronic expansion valve, the air conditioner can operate efficiently and energy-saving in all working conditions.

TCL bedroom fresh air conditioning won the enterprise standard "Leader" product certification of 2021 Home Appliances Green and Low-carbon Development Technology Conference. This product certification not only provides a key scale for consumers to buy energy-saving green products, but also leads the entire industries to accelerate its transformation to a green economy.



Case: TCL Industries obtained China's first electrical products (LCD TV) carbon label evaluation certificate

TCL bedroom fresh air conditioner adopts large diameter efficient air wheel and optimized design of blade profile and cross flow duct profile to realize efficient air distribution and greatly improve the energy efficiency of the whole air conditioner. TCL bedroom fresh air conditioner also has a high efficiency and energy-saving frequency conversion compressor, which operates in wide band and keeps the air conditioner running at constant temperature under ultra-low energy consumption. Equipped with high-efficiency throttling electronic expansion valve, the air conditioner can operate efficiently and energy-saving in all working conditions.

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(2021 TCL65V2D Electrical and Electronic Products Carbon Label Certificate)

Case: TCL green smartphone concepts

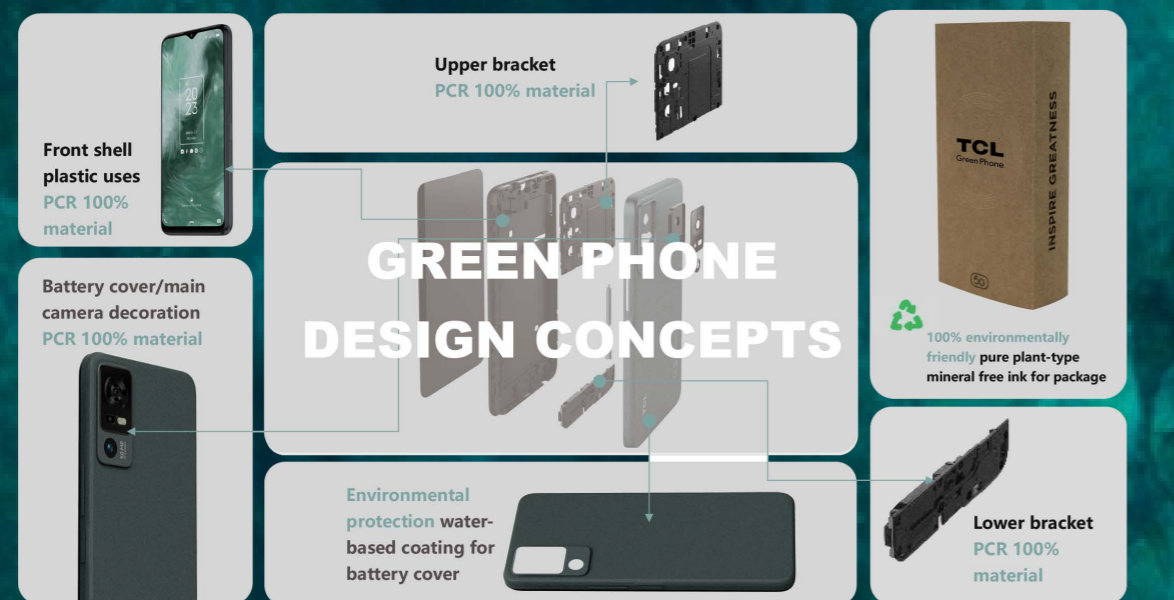
TCL has started to develop green smartphone concepts with 100% environment-friendly materials. From the body materials, camera and other decorative parts to the product packaging and logistics, TCL has the capabilities to adopt environment-friendly recycled materials and environment-friendly coatings to reduce the carbon footprint of products and help reduce the impact of e-waste on the environment.

Recycled materials: Front shell plastic, battery cover/main camera decoration, upper bracket and lower bracket are 100% post-consumer recycled materials (PCR);

Environmental protection technology: environmental protection water-based coating technology is adopted for battery cover;

Promote green packaging: Product packaging is printed with 100% environmentally friendly pure plant-type mineral free ink;

These smartphone concepts demonstrate our commitment to promote and end to end sustainability process for product development and manufacturing in the future, to achieve the highest level of eco-rating scores and the conservation of biodiversity in our industrial chain.



7.2 Green logistics

GREEN LOGISTICS

In terms of green logistics, TCL industries comprehensively promotes the upgrading of new energy logistics and transportation, forming end-to-end green smart logistics and helping the goal of "dual carbon".

- Intelligent warehouse**

Three intelligent warehouse was established in nationwide, realizing the whole process of large goods from warehouse to warehouse unmanned operation, improving work efficiency.
- Intelligent transportation**

Intelligent transportation: The self-built transportation management system (TMS) can obtain information through the big data established with shipnews network, realize the automatic optimization configuration of transportation routes, visual automatic early warning, which reduce transportation distance and times, and improve transportation efficiency.
- Big data optimization of transportation routes**

The apply of the Internet of things, big data, cloud computing, artificial intelligence and other technologies comprehensively optimize the location of warehouses, adjust logistics distribution routes, and shorten the transportation distance between warehouses and customers. At the same time, through the integration of freight routes and transport capacity resources, vehicles and goods can be accurately matched to reduce the greenhouse gases and pollutants in transit, so as to build a green and intelligent transport system.
- Improve loading efficiency**

Maximize the loading rate and turnover rate of international container shipping by improving product structure, optimizing packaging materials, establishing the optimal loading MOQ model, and guiding loading by intelligent counting cabinets, etc., so as to help the green and low-carbon transportation system.
- Adjust the transport structure**

the company actively respond to the call of the state, take the initiative to adjust the transport structure, accelerate the landing process of "Rong-European railway to sea". 60% of the freight volume is transported by sea. At the same time, priority is given to the use of new energy vehicle transport service providers, and the use of new energy vehicles is promoted in 32 manufacturing bases around the world, effectively reducing the exhaust emissions generated by transport vehicles.

Case: COSCO SHIPPING Lines

In 2021, TCL Industries and COSCO SHIPPING Lines signed a strategic cooperation agreement and transport Service framework Agreement to cooperate deeply and explore ways in emission reduction of the shipping field in order to achieve the goal of low carbon, environmental protection, and energy saving. The company further collaborate with upstream and downstream supply chains to develop low-carbon solutions and achieve sustainable development goals.



Case: Maersk signed a strategic cooperation agreement with TCL Industri

TCL Industries and Maersk work together to deepen all-round supply chain cooperation, so as to give full play to their respective resource advantages, promote business development of both sides with honesty and altruism, and obtain mutual success. Relying on Maersk's global integrated logistics network system, it will do help TCL Industries to continuously explore the international market, improve customer experience, and build a more complete supply chain system globally. Both sides will continue to explore further cooperation in green transportation.



7.3 Green packing

Packaging materials are main consumption materials in the life cycle of our products. On the premise of ensuring product quality, we reduce the waste of packaging material and the pollution of discarded packaging materials to the environment through multiple measures such as green packaging, lightweight packaging, packaging technology upgrading and packaging recycling.

Green packaging material

In response to the international trend of plastic reduction, our mobile communication products and smart connected products have adopted soybean ink, recyclable paper and Forest Stewardship Council (FSC) certified paper packaging materials, ABS recyclable plastic and other environmentally friendly materials. In addition, some of our projects have realized that the packaging materials are plastic free or 100% recyclable, and promoted the use of more healthy, environmentally friendly and easily recycled extruded polyethylene (EPE) materials. We actively developed various alternatives such as honeycomb paper packaging and paper film packaging made of recycled materials, so as to reduce the plastic content in packaging and promote the green packaging.

Packaging lightweight

By promoting packaging reduction design, we have implemented measures such as reducing the packaging box design of mobile communication products and accessories and reducing the number of pages of product instructions globally, which has effectively reduced the use of packaging materials. In addition, we use paper packaging materials to reduce the weight and volume of products, and optimize the packaging layout by adopting L-shaped packaging and other ways to increase the number of containers and reduce the greenhouse gas emissions caused by transporting goods.

Packaging technology upgrade

We always pay attention to the development of packaging technology, using water-based ink, soybean ink to improve pollution from packaging printing on the environment. On this basis, we further explore the application of mineral free ink with zero VOC emission in the outer packaging of products, which has the significance point of environmental protection. At the same time, the wear resistance and anti-sticky and dirty properties of the product packaging are improved.

Packaging recycling

We encourage the supply chain to use recycling of packaging materials, requiring suppliers to recycle and reuse the provided packaging cartons, cards, plastic turnover boxes, etc., in order to improve the utilization rate of packaging materials.

GREEN PACKAGE

Case: Set up a special group for product's green packaging design to promote TCL's green packaging design

In 2022, in order to better respond to the sustainable development strategy of TCL Industries, we set up a special team for product's green packaging design to explore green, sustainable and practical packaging design.

Green packaging design is a successful attempt by TCL to combine design innovation and sustainable concept. We designed TV packing boxes into reusable "furniture". Users can quickly assemble empty cartons into cabinets within 3 minutes to store daily necessities and can also restore them into packaging boxes for reuse. This design aims to solve the pain point of waste of TV packaging carton, while expanding new living space for users, and bring sustainable design into users' life.

Case: TCL Electronics develops the industries's first new honeycomb paper packaging scheme

In 2022, TCL Electronics developed the industries's first new-embedded integrated honeycomb paper packaging scheme. Through reasonable calculation of material characteristics, the lightweight design of expandable polystyrene (EPS) was carried out. While improving the cushioning performance of packaging materials, the packaging thickness was reduced and the product carbon footprint in transportation was decreased.

7.4 Green marketing and service

TCL User Service Center has deployed 2 large call centers, 30 zones and 4 service factories nationwide, with service capacity covering the whole country. It has also built 3 large call centers and 15 self-operated service centers internationally, covering key sales regions on six continents, and is committed to continuously improving online problem-solving capability of employees. We provide overseas users with a comprehensive online problem-solving channel. In the process of sales and green marketing, the negative impact on the environment will be reduced as much as possible, while improving social value and customer satisfaction. In the process of practicing green marketing and green service, we should focus on the following aspects:

Sales channels

we choose more environmentally friendly sales channels, such as "TCL Home" directly online sales, sharing economy, etc., it can reduce the driving of logistics vehicles as much as possible, and also decrease carbon emissions. As a responsible e-commerce platform, TCL Home always adheres to the concept of environmental protection in its business. The company actively uses green packaging, green logistics and other measures to reduce carbon emissions in the process of operation. In addition, TCL Home also contributes to the green and low-carbon development of society by carrying out various green public welfare activities.

Publicity and promotion

the company strengthened the publicity of green marketing, encouraged and guided customers to make environmental protection choices. For example, the products sold in Europe are labeled with "CE", and the product sold in China are labelled with "CGP". By advertising and other means, we informed of the environmental characteristics of the products. At the same time, the environmental protection and saving lifestyle are advocated.

Resource utilization

Service team of TCL Industries will try their best to reduce the resources consumed in the service process, and choose more environmentally friendly service methods, such as online consultation in the call center, e-invoice, etc., in order to reduce the enterprise's impact on the environment from the root. Service capability in the whole scene of aftersale of home appliance was obtained. In addition, three call centers was set up across the country to solve customers' questions and problems through professional call center services instead of door-to-door services.

Service environment

At the same time, TCL Industries has established excellent service in China from management service to performing service. We build our own service terminal competitiveness, from management service provider to direct management engineer. TCL Industries service team create a comfortable, safe, hygienic and energy-saving service environment, and adopts renewable energy and other environmental protection measures to reduce carbon emissions as much as possible in the service process.

TCL Industries relies on over 5,000 Chinese service providers and 30,000 service engineers to expand the recycling network of old household appliances and opens up the channels of trade-in and recycling of household appliances. It is convenient for users to submit recycling applications and online evaluation of used household appliances on the official website, APP, wechat official account and other online channels. By the end of 2022, TCL Industries had recycled a total of 4.296,000 used household appliances through various channels.

In short, no matter green marketing or green service, TCL Industries al marketing and service will integrate the concept of environmental protection into the whole service system, reducing the negative impact on the environment as much as possible, and developing together with the society.

Case: TCL Green quick response on maintenance

Continue to promote fault self-test, remote diagnosis, online upgrade and other methods to solve customer problems online;

Actively establish advanced maintenance capability in service centers at home and abroad, which can repair spare parts such as screen and plate, promoting the recycling of damaged parts. Transfer packing boxes of valuable parts can be reused many times to reduce resource consumption;

In response to the environmental requirements and call for various countries, we are committed to promoting the improvement of environmental indicators such as repairable index, expanding the scope of maintenance, and reducing the loss of machine scrap;

Continue to carry out online and offline after-sales training globally, and expand online service data acquisition channels, improve the problem-solving ability of global service providers and call center customer service;

Promote the construction of digital service, the whole process of online service, reduce the consumption of office supplies.



7.5 Green recycling

Founded in 2009, TCL Environmental Protection Technology is an enterprise group specializing in recycling waste resources and comprehensive environmental services. It has built six production bases in Huizhou, Tianjin, Shantou, Huanggang, Sichuan and other places. TCL Environmental Protection Technology has the qualification of recycling and disassembling waste electronic products and obtain the operation license of hazardous waste. It can handle and dispose 4.69 million waste electronic products and 220,000 tons of industrial hazardous waste per year. TCL Environmental Technology adheres to the mission of "promoting the recycling of resources through science and technology, promoting the harmonious coexistence between man and nature", and adheres to the business philosophy of "customer-oriented and technology-driven". We provide complete hazardous waste treatment and disposal services for semiconductor panel display, chip, PCB, new energy battery, high-end pharmaceutical, chemical and automobile manufacturing enterprises. With industries-leading process technology, equipment and comprehensive environmental solutions, we realize the organic combination of recycling and harmless treatment and disposal.

Case: TCL Environmental Technology

Established in 2009, Huizhou Project Department mainly serves customers such as TCL LCD Industrial Park, TCL Huizhou CSOT, Maojia Technology, TCL Tonly Electronics, TCL Communication, etc. It has 15,000 square meters of sorting space and warehouse. And its annual recycled and processed various materials reaching 25,000 tons, including 1.15 million foam boxes, 6.36 million gaskets and 80,000 pallets.



Established in 2012, the Shenzhen Project Department mainly serves TCL Shenzhen CSOT and other customers. It has 3,000 square meters of sorting ground and warehouse. And its annual recycled and processed of metal, screen glass, sludge and other materials in total of about 10,000 tons.

Established in 2015, Wuhan Project Department mainly serves customers such as TCL Wuhan CSOT. It has 3,000 square meters of sorting ground and warehouse, which annual recycled and processed of about 12,000 tons of plastic, metal and screen glass, 5.6 million blister trays and 300,000 foam boxes.



Get through waste household appliances recycling chain

In 2022, TCL User Service Center started the project of self-established channel for recycling. The phased goal is to build standardized professional capability of recycling service based on the competitiveness of its own service terminals, with a professional supporting recycling service system model which can directly connect to TCL Environmental Protection and document the used machine information to make the used machine process visible and traceable. At the same time, the company cooperate with dealers to carry out the trade-in of used household appliances to promote consumer consumption and promote sales. In 2022, TCL Industries recycled 4.296,000 televisions (including CRT and LCD), 426,000 refrigerators, 1.42 million air conditioners, and 140.5 washing machines.

In 2023, we will further strengthen the recycling of waste household appliances, continue to improve the self-construction of household appliance recycling system, build an information system of after-sales service recycling from front-end recycling to back-end disassembling and processing by TCL Environmental Protection Technology, and continue to operate the self-flow entry of recycling information developed on TCL APP, official account, official website, mall, perfect home APP and mini program. This can provide users with convenient terminal recycling self-service, promote in each sales channel platform, build 2C recycling channel (no restrictions on brands), coordinate front-end sales with "Internet + direct service store recycling" mode, carry out trade-in to activate stock market customers, build user viscosity, and transform potential customers into actual purchasing customers. That can help promote the front end of the market consumption of home appliances.



7.6 Green supply chain

TCL adheres to the era of green development, integrates the concept of green and low carbon into every link of value chain management, standardizes supplier management, strengthens mutual benefit and mutual assistance with suppliers, and jointly builds a green supply chain.

Use TCL's new industries layout to transform the supply chain

In order to achieve carbon emission reduction of its own operating boundary, TCL Industries has formulated its own carbon reduction goals and cooperated with TCL Photovoltaic Technology to build photovoltaic power generation, so as to increase the use of green electricity. At the same time, we refer to the ISO50001 system requirements, establishing energy management in the production base. In the daily operation, we explore the management innovation of energy saving, in order to reduce the waste of energy.

Supplier access management

We signed the Subcontractor and Supplier Social Responsibility Commitment and the Environmental Compliance Statement with suppliers and other documents, requiring suppliers to reduce the adverse impact on the environment and natural resources in the process of production and operation. At the same time, we formulated Supplier CSR Audit Management Standards and conducted social and environmental responsibility audit on suppliers, focusing on their environmental protection, greenhouse gas emission reduction, energy compliance, energy saving, and tracking their improvement.

Carbon reduction of key suppliers

According to the greenhouse gas inventory, we set "30, 50" target to achieve carbon peak and neutral and planned the greenhouse gas inventory and emission reduction of key suppliers. In order to support the implementation of this plan, TCL Industries invited professional organizations to conduct greenhouse gas inventory training for key suppliers, and at the same time shared the carbon reduction measures in the industries with the suppliers, gradually promoting the carbon reduction of suppliers. For suppliers that actively reduce carbon, joint procurement will give more positive evaluation, and may influence the proportion of orders at the supplier side.

Vigorously promote the use of recycled materials

Because recycled materials are not obtained from the natural environment, the process flow is reduced in the production process. And there is no need to carry out mining or other work with large energy consumption. Therefore, we realize that recycled materials can play a very positive role in reducing carbon and saving resources. In order to promote the work of recycled materials, TCL Industries responds to the concept of "waste free city" proposed by the state. We have promoted the resource utilization of solid waste, and the utilization rate of resources has reached over 90%. In addition, we also plan the use of recycled materials. Currently, parts of some products are manufactured with recycled materials, and gradually expand the recycling and reuse of different materials. In order to achieve this purpose, we plan to jointly promote the development and use of recycled materials with solid waste disposal companies, recycling companies and suppliers, building a resource-saving and environment-friendly society.



8

Join hands with the value
chain and the society to
create a net zero ecosystem



8.1 Share and build with multiple parties

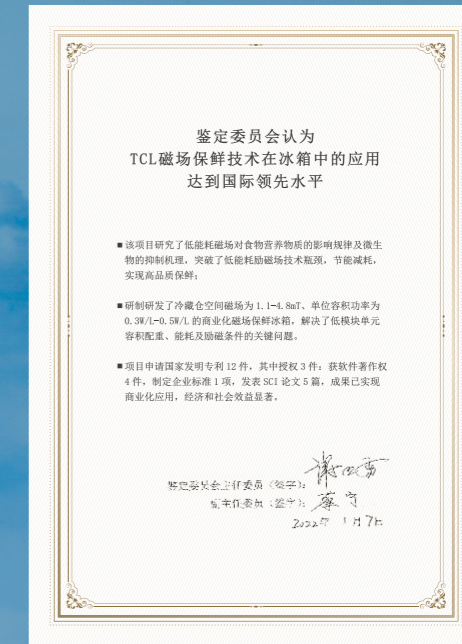
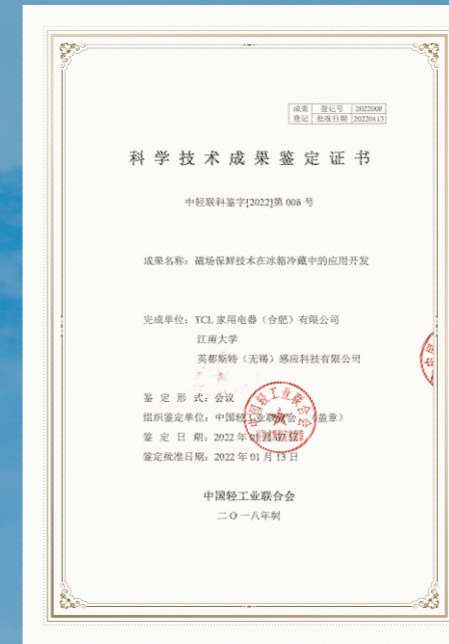
TCL Industries takes the initiative to advance the strategic transformation, and promotes innovation and cooperation related to net zero transformation with the industries, regulators, academy and other organizations to realize resource sharing and gathering wisdom and strength from various sources.

Action: Deepen multi-party cooperation

Walmart organized the Global Sourcing Sustainable Development Summit in Shenzhen on May 21, 2019. The Giga-Guru Award was presented to TCL by Asham Mnon, Vice president of Walmart, for TCL's active participation and outstanding performance in Walmart's Gigaton Global Greenhouse Gas Reduction Project. The global winners of the Giga-Guru Award include the world's most famous brands and suppliers. A total of 13 factories received the award at the Shenzhen Summit. TCL is the only home appliance manufacturer.



Giga-Guru Award



The magnetic fresh-keeping technology that jointly developed by Household Appliance BU and Jiangnan University has obtained the certificate of international leading achievement certified by China Light Industries Federation



White Household Appliance BU and Jiangnan University set up the Joint Laboratory of Freshness Technology Innovation, which is committed to basic freshness research, and development and transformation of advanced freshness technology



White Household Appliance BU and Wanhua Chemical established a joint center for new materials, which committed to the research and application of new thermal insulation materials and green low-carbon materials

Case: TCL Industries cooperated with China Nuclear Technology Subsidiary and Carbon and New Energy

On May 23, 2023, TCL Industries and Nuclear Construction Financial Leasing and carbon and New Energy, an indirect wholly owned subsidiary of China Nuclear Science and Technology, concluded the framework agreement of TCL Huizhou carbon and financial leasing. TCL Industries agrees to provide irrevocable joint liability guarantee for the debts of Carbon and New energy as co-tenants under the entire financial lease contract signed with Nuclear Construction Financial Leasing.

By conducting financial leasing transactions under the framework agreement of TCL Huizhou Carbon and Financial Leasing, nuclear construction financial leasing can make full use of the resource advantages of TCL Technology and combine its financial leasing business with electrical manufacturing, new energy and environmental protection, which is the key business of TCL Technology, so as to maximize the group's benefits and realize the combination of industries and finance.

SHARED AND CO BUILT

8.2 Harmonious coexistence with nature and society

Cultivate green culture

We have adopted targeted measures to cultivate a green culture with distinctive features, and rich content, and guided all staff to firmly establish the concept of green and low-carbon development. The green and low-carbon requirements are integrated into the daily production and life of employees. Education and training on green and low-carbon development for management and grassroots employees are strengthened. In addition, we consciously undertake the responsibility and mission of protecting nature and the environment, and carry out environmental protection activities under the theme of National Energy Conservation Publicity Week, Low-carbon Day and World Environment Day, so as to convey the low-carbon and green concept of sustainable development and protect the earth with concrete actions.

Case: Practice the concept of green culture

On December 2, 2021, TCL Industries launched the initiative for all employees to promote "energy Saving and carbon Reduction" and maintain the spirit of hard work for all employees, which aims to call on all employees to practice the concept of green office, implement the work requirements of "extreme efficiency cost", and maintain the spirit of hard work. We create a strong atmosphere of energy saving and carbon reduction for all employees in the enterprise, and help environmental protection together, and build a green home.



Action: Talk about carbon labeling National Low Carbon Day

In response to the theme call of National Energy Conservation Publicity Week and Low-carbon Environment Day, on June 15, China Electronics Energy-saving Technology Association and TCL Industries jointly held 2022 Global carbon label Commodity Exhibition and Dialogue Carbon Label - National Low Carbon Day. Leaders, academicians, experts and scholars, and representatives of enterprises at the meeting conducted in-depth exchanges and discussions on industrial low-carbon innovative development and enterprise environmental protection actions based on the theme of the conference. The number of viewers reached 170,000 on the day of the activity, which gained widespread attention from the society and good results.

Case: "June 5 World Environment Day-- Building a Clean and Beautiful World" theme publicity by Homa Electric

In June 2022, Homa Electric held the World Environment Day publicity activity, with the theme of "Building a Clean and beautiful World", aiming to thoroughly implement the concept of ecological civilization, encourage all parties to enhance the awareness of ecological and environmental protection, participate in the construction of ecological civilization, and build a beautiful China. In the activities, the company advocates that employee choose green consumption and use green products, realize low-carbon and green lifestyle, and actively participate in environmental protection cause, become environmental volunteers, and promote the concept of environmental protection.



Case: TCL PV low-carbon Campus

In cooperation with TCL Public Welfare Foundation, we donated solar photovoltaic power generation system on school roofs to rural schools, and fully integrated the electricity into the power internet. This not only realized the utilization of green and clean electricity, but also responded to the call of the national energy conservation and environmental protection policy and implemented the "dual carbon" development concept, and also brought power generation benefits to schools, which is used for the construction of school and provide financial aid for poor students to create a sustainable education model.

In May 2022, in order to support the development of school education in Xixiang County, Hanzhong City, Shaanxi Province, the foundation decided to donate photovoltaic rooftop power generation systems and their 25-year income to four schools, including Caomiao Primary School, Xixiang County, and entrusted Tianjin Zhonghuan New Energy Co., Ltd. to build them. The photovoltaic rooftop power generation system of each school has an installed power generation capacity of 54kw, with an average annual power generation capacity of 47,305kwh and an annual power generation income of 16,800 yuan (fully connected to the Internet). It can save 18.92 tons of standard coal and 47.16 tons of carbon dioxide per year on average, and save 473 tons of standard coal in the 25-year life cycle of the photovoltaic system. It will reduce carbon dioxide emissions by 1,179 tons, which is equivalent to planting 65,000 trees. and the income from the photovoltaic power generation donation is about 1.68 million yuan. It saves 1,892 tons of standard coal and reduces 4,716 tons of carbon dioxide, which is equivalent to planting 260,000 trees.



Case: TCLGreen was launched in Italy and TCL is committed to building a green future

TCLGreen, an art installation of the same name that pays tribute to the brand's environmental philosophy, debuted at the launch ceremony on September 10, local time in Italy. It created by renowned installation artist and fellow of the Royal Institute of British Architects Kevin Chu. This art installation tells TCL's ESG story in a creative way.



Enhanced carbon removal technology

TCL has earnestly implemented the national carbon peak & neutrality strategy, actively opened up new tracks, entered the smart environmental protection business field, and created new drivers and advantages for development.

Among them, ecological restoration business in the field of intelligent environmental protection is a direct and effective way to enhance the carbon sequestration capacity of ecosystems. Focusing on the integrated protection and restoration of mountains, rivers, forests, farmland, lakes, grass and sand, we will actively participate in and carry out projects such as mine ecological restoration, returning farmland to forest and grassland, improving the quality of cultivated land, protecting and restoring mangrove forest and seagrass beds, and increasing the carbon storage and absorption capacity of the ecosystem.

In our ecological restoration projects, we will follow international standards set by organizations such as the Certified Carbon Standard (VCS), the Gold Standard (GS) and the Climate, Community and Biodiversity Standard (CCBS) to ensure that carbon sequestration are measured and reported to the highest standards, so that the carbon credits they generate can be used for our net-zero strategy.

Case: Mine environmental risk control and remediation of Changhua lead-zinc Mine

Mine restoration is to repair the pollution of abandoned mining land, to realize the restoration of the damaged ecological environment and the sustainable utilization of land resources. With the deepening of the dual carbon target, the ecological restoration of mine is not only an important means to restore the mine ecosystem, but also an effective measure to enhance the carbon sequestration capacity of the mine ecosystem. Based on the self-recovery ability of the ecosystem, combined with artificial intervention measures, the damaged ecosystem can gradually restore its function and structure, and can be self-sustaining and positive succession, so as to achieve a new ecological balance and sustainable development.

The project adopts a package of technical solutions of "pollution control + ground disaster control + mineral resource protection + forest land restoration + landscape park construction". The pollution of lead and zinc mine in Changhua has been controlled. Geological disaster has been prevented. Ecological environment has been restored. Living environment has been improved. Ecological environment carrying capacity has been enhanced. Natural ecological landscape has been restored, and the transformation from "carbon source" to "carbon sequestration" has been achieved.

8.3 Resonates with The Times

TCL Industries actively participates in the World Ultra HD Videoindustries Alliance, 8K Association, China RoHS Working group and other foreign standards organizations. At the same time, Star Factory has completed the disclosure of CDP climate change questionnaire, and plans to apply to join the Scientific Carbon Target Initiative (SBTi), progressing hand in hand with the world's leading enterprises. We work to achieve the 1.5 ° C target of the Paris Agreement. In response to the trend of green, low-carbon and environmental protection management at home and abroad, TCL Industries actively participates in the preparation of product quality, high energy efficiency, carbon label, product environmental protection and other standards, timely improves the "30, 50" dual carbon strategy of TCL Industries, and establishes TCL photovoltaic to help the era of the trend of social carbon reduction.

Exporting low-carbon solutions

Photovoltaic technology enabling carbon intensive enterprises

TCL Photovoltaic Technology has laid out the whole photovoltaicindustries chain. Since its establishment, relying on TCL's synergistic advantages in the industrial chain, TCL has continuously strengthened its market competitiveness in EPC construction, power station operation and maintenance, providing one-stop clean energy system solutions of "investment, construction, transportation and sale" for industrial and commercial users, including EPC mode, EPC+F (finance lease) mode, EMC (contract energy management) mode. At present, TCL Photovoltaic Technology has cooperated with many top 500 enterprises and listed companies at home and abroad, and is actively negotiating with universities and leading enterprises in cold chain, daily chemical, logistics, medical and other industries.

New environmental protection refrigerant alternative activities

Homa, owned by TCL Industries, has used the R600 refrigerant since its inception, saving millions of tons of potential greenhouse gas emissions. The activity to replace new environmentally friendly refrigerants provides TCL solutions for the implementation of the Paris Agreement and is an important measure to achieve synergies between climate change and ozone layer protection.

Digital intelligence helps manufacturing Industry achieve the goal of dual carbon

Case: Energy carbon peak & neutrality overall solution of Getech

Getech has the service capability of consulting planning, scheme design, system construction and energy saving optimization of the whole process. From the three dimensions of energy management optimization, enterprise carbon management and AI-driven energy saving and carbon reduction, Getech helps enterprises realize several major functions such as global energy monitoring and management, energy consumption analysis and optimization, energy consumption structure adjustment, enterprise carbon management, energy saving and optimization control, and energy-carbon linkage. It solves such problems as low utilization efficiency of resources and energy, balance between supply and demand of energy consumption, and difficulty in carbon emission control. It can match the optimal energy-carbon operation strategy according to the needs of diversified application scenarios of industries and customers, and help factories build a dynamic and coordinated "energy-carbon" brain. By the first quarter of 2013, the cumulative carbon reduction exceeded 250,000 tons, and the cumulative economic benefits exceeded 120 million yuan.



CO FREQUENCY RESONANCE

We will actively develop a circular economy

"The 14th Five-Year Plan" period, our country is entering a new stage of development, vigorously developing circular economy, promoting economical and intensive use of resources, constructing resource recycling industrial system and recycling system of waste materials. It is the great significance for ensuring national resources security, driving carbon peak and carbon neutralization, and promoting ecological civilization construction. The environmental protection technology of TCL Industries continues to strengthen its efforts on research and development, focus on "high value and high quality" hazardous waste recycling, break through the "difficult" waste recycling problem, build differentiated competitiveness, and promote the high-quality development of TCL Industries.

Case: Huanggang TCL Circular Economy Industrial Base

TCL Circular Economy Industrial Base in Huanggang is located in Huangzhou District, Huanggang City, Hubei Province, with a total investment of 1 billion yuan. Its business covers a number of hazardous waste treatment and disposal businesses, including comprehensive utilization and manufacturing of high-end solvents, harmless high-temperature incineration and disposal, physical and chemical treatment and disposal, industrial hazardous waste resource recycling, etc. The total solid waste treatment and disposal capacity reaches 120,500 tons/year. The development path of Huanggang Base is upgrading from "harmless" to "resource-based", from harmless treatment of hazardous wastes discharged by enterprises at the beginning to gradually transforming hazardous industrial waste into chemicals resources that can be recycled or even sold for a second time.



TCL Industries has been paying more attention to circular economy, actively opening up new tracks, entering into business areas such as recycled aluminum, recycling of retired power batteries, and recycling of silicon mud, so as to create new driving forces and new advantages for development.

We help promote rural revitalization

We developed household rooftop distributed photovoltaic power generation projects to promote energy transformation in rural areas and facilitate revitalization.

Case: the household distributed photovoltaic project for rural revitalization

TCL Photovoltaic is committed to empowering rural areas. Through the development of household rooftop distributed photovoltaic power generation projects, TCL adopts a variety of product models to maximize the benefits to the people, which is good for rural revitalization and promote the development of new energy in rural areas.

In 2022, eight provinces and one city was covered by photovoltaic projects for household use, and more than 8,000 households was provided with photovoltaic projects to enrich the people. Taking the installed capacity of 25KW for a single household as an example, it is expected to increase farmers' income by 1,600-1,800 yuan per year. At the same time, this part of the project will reduce carbon dioxide emissions by 133,700 tons per year and help zero-carbon development in rural.



Conclusion

TCL Industries adheres to the sustainable development concept of harmonious coexistence between human beings and nature. Let us join hands with all walks of life in the world to reduce carbon in the future! In order to realize the national "dual carbon" goal at an early date, TCL will contribute its wisdom and strength to control global rising temperature within 1.5°C.

Appendix

About the report

This report is the first white paper for carbon neutral issued by TCL Industries, which describes the overall consideration of TCL Industries to achieve carbon neutrality and the innovative practice of low-carbon transformation. This report mainly introduces the overall plan of the carbon neutrality strategy of TCL Industries and the innovative practice of low-carbon transformation, which includes a prospective study on the future carbon emission trend. The study is subject to uncertainty and many factors may make the results to be different from the situation described in this report. Continuous improvement will be made to the report.

SGS has provided technical support to TCL Industries in the process of accounting for corporate carbon emissions, and SGS expressly disclaims all liability and responsibility to any third party accordingly.

Organizational scope

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

Period scope

This report covers the period from January 1, 2022 to December 31, 2022, with some content being retro actively or extended to other significant years as appropriate to improve the completeness of the report.

Key term

■ Analysis of the concepts of "carbon neutrality" and "net zero emissions"

In an international context, Carbon neutrality is when an organization's CO₂ emissions are sufficiently balanced through the application of CO₂ removal technologies over a specific period, also known as net zero CO₂ emissions. Net zero emissions (Net zero emissions) is the balance of all greenhouse gas (CO₂-e, measured in carbon dioxide equivalent) emissions and greenhouse gas removals by an organization over a specific period of time, i.e., net zero greenhouse gas emissions.

In the Chinese context, the concept of "carbon neutrality" has broad and narrow meanings. In a narrow sense, carbon neutrality only refers to carbon dioxide neutrality, while in a broad sense it refers to carbon dioxide neutrality, greenhouse gas neutrality, climate neutrality, net zero carbon dioxide emissions, net zero greenhouse gas emissions and other related concepts. This report adopts the Chinese idiom and generally adopts its broad concepts.

■ Key English abbreviations

CO₂e: CO₂ equivalent

SBTi: The Science Based Targets initiative

CDP: Carbon Disclosure Project

VCS: Verified Carbon Standard

EMC: Energy Management Contracting

GS: Gold Standard

■ Title description of report

For ease of expression and reading, unless otherwise specified, "TCL Industries", "Company" and "we" in the report refer to TCL Industries Holdings Limited and the following major subsidiaries.

Number	Abbreviations of Subsidiaries	Full Names of Mian Subsidiaries
1	Air conditioning business	GD TCL Intelligent Heating & Ventilating Equipment Co., Ltd.
2	Air conditioning business	Zhongshan TCL Refrigeration Equipment Co., Ltd.
3	Air conditioning business	TCL Air-Conditioner (Zhongshan) Co., Ltd.
4	Smart screen BU	TCL Intelligent Electrical Appliances (Vietnam) Co., Ltd.
5	Air conditioning business	TCL Air Conditioner (Jiujiang) Co., Ltd.
6	TCL White Household Appliances	TCL Household Electric Appliance (HeFei) Co.,Ltd.
7	Smart screen BU	TCL Ace Electrical Appliances (Huizhou) Co., Ltd.
8	Smart screen BU	Manufacturas Avanzadas.S.A.de C.V
9	TCL Industries platform and OBG, CBG platform	China marketing headquarters
10	TCL Industries platform and OBG, CBG platform	OBG overseas platform
11	TCL Industries platform and OBG, CBG platform	Shenzhen platform of TCL industrial
12	Air conditioning business	Guangdong Wanqiongzi Intelligent Control Technology Co., LTD
13	Air conditioning business	TCL AIR CONDITIONER(Wuhan) Co., Ltd.
14	Smart screen BU	TCL King Electronics (Chengdu) Co., Ltd.

Number	Abbreviations of Subsidiaries	Full Names of Mian Subsidiaries
15	Smart screen BU	TCL Photoelectric Technology (Chengdu) Co., Ltd.
16	Smart screen BU	Inner Mongolia TCL Photoelectric Technology Co., Ltd.
17	Air conditioning business	Huizhou Tcl Mobile Communication Co., Ltd.
18	Smart screen BU	TCL Electronis Pakistan(Private)Limited
19	Air conditioning business	TCL Indonesia Limited
20	TCL Industries platform and OBG, CBG platform	TCL North America
21	TCL Electronics	TCL Electronics Holdings Limited
22	TCL Communication	TCL Communication Technology Holdings Limited
23	TCL Photovoltaic Technology	Huizhou TCL Photovoltaic Technology Co., Ltd.
24	TCL Air Conditioners	TCL Air Conditioner (Zhongshan) Co.,Ltd.
25	TONLY Technology	TONLY Technology Holdings Limited
26	Getech	Getech Technology Co., Ltd
27	TCL Environmental Technology	TCL Environmental Technology Co., Ltd.
28	Homa Appliances	Guangdong Homa Appliances Co., Ltd.

■ Main reference material

- ① IPCC. Special Report on Global Warming 1.5C [R].2018.
- ② United Nations Environment Programme. Emissions Gap Report 2022[R]2022
- ③ World Meteorological Organization State of the Global Climate 2021 [R].2022
- ④ COP27, <https://unfccc.int/cop27>.
- ⑤ China's Policies and Actions to Address Climate Change 2022 Annual Report of the Ministry of Ecology and Environment [R].2022
- ⑥ TCFD website, www.fsb-tcf.org.
- ⑦ SBTi website, <https://sciencebasedtargets.org>.
- ⑧ 2022 Annual Report of TCL Industries
- ⑨ Environmental, Social and Corporate Governance Report of TCL Industries in 2022

■ Data source and reliability statement

The data and cases in this report are mainly from the company's official archives, statistical reports and financial reports. The Company guarantees that the content of this report is free from any false records and misleading statements. Unless otherwise stated, the monetary amounts mentioned in this report are measured in RMB.

■ Report acquisition

This report is available in both Chinese and English. In case of any discrepancy, the Chinese version of the report shall prevail. The electronic version of the report is available on the company's official website (www.tcl.com).



Carbon Neutrality White Paper of TCL Industries

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