

SINO-OCEAN GROUP The Road to Carbon Neutrality

The challenges posed by climate change are unprecedented. The average global temperature has risen by about 1.1 degrees Celsius compared to the preindustrialization age, and is only slightly shy of the 1.5-degree temperature cap set by the Paris Agreement.

The human race is on a shared path to carbon neutrality, which is the only way forward to make sustainable and high-quality development possible. Carbon emissions from the global construction industry account for about 40% of total emissions¹, and Sino-Ocean Group, as "the creator of building health and social value", takes its responsibility seriously. In 2021, Sino-Ocean Group officially applied to become a supporter of TCFD (Task Force on Climate-Related Financial Disclosures). As the first TCFD supporter among mainland Chinese real estate companies, Sino-Ocean has strengthened its will and resolve to face the crisis of climate change. Also in 2021, we began researching a carbon neutrality strategy and planning our carbon reduction pathway, which led to Sino-Ocean's first carbon neutrality roadmap, marking a new start for a long and arduous journey to carbon neutrality. We hope to leverage a scientific and practical roadmap for emission reduction to help achieve business development and carbon neutrality at the same time.

With the philosophy to "never seek the easy and avoid the challenging", the Group intends to carry its commitment to the end and remain loyal to this difficult but correct path. While improving product and service quality and ensuring user satisfaction, we also pledge to innovate the way we work in response to the demand of our times. As the industry enters a new stage of development, Sino-Ocean will continue to uphold the concept of "Building Health, Joint Growth", and work with all stakeholders to achieve sustainable value creation, and with our partners to advocate and champion healthy, green, climate-friendly and sustainable city and community building for an exciting future together.

Chairman of the Board of Directors and Chief Executive Officer of Sino-Ocean Group

2022/07

1/ 2020 Global Status Report for Buildings and Construction, United Nations

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Sino-Ocean Group's Carbon Neutrality Commitment



2050 "Net Zero Emissions"





High-star Level Green Building



Sino-Ocean Group commits to achieve "net zero emissions" by 2050

Sino-Ocean Group will achieve "net zero emissions" in scope 1, 2 and 3 of greenhouse gas emissions by 2050, i.e., throughout our value chain.

The carbon emission intensity of the Group's operations will decrease by 19% by 2025

We have already achieved our medium-term carbon reduction goals ahead of time in 2021, so we went on to set the following new goal:

Reducing carbon emission intensity (tCO_2e/ten thousand yuan of revenue) of residential and property development and operation business, and other businesses specified in scope 1 & 2 by 19% by 2025 (2020 as the baseline year).

100% of the self-held projects will achieve high-star level of green building standards by 2025

Since 2021, all of Sino-Ocean Group's new projects are already in compliance with national green building standards.

Greenhouse Gas Emissions Accounting

Adopting the scopes and computing methods defined in the GHG Protocol jointly issued by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), Sino-Ocean Group has overhauled the state of carbon emissions throughout its value chain and commissioned a third-party independent agency to audit all greenhouse gas emissions under its operational control in 2020 (baseline year). Seven categories of greenhouse gas were included: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorinated compounds (PFCs), nitrogen trifluoride (NF₃) and sulfur hexafluoride (SF₆).

Scope 1 (Direct Emissions)

Direct sources of greenhouse gas emissions owned or controlled by the Sino-Ocean Group.

• Stationary Combustion

Mostly from natural gas used in gas stoves and company dining halls.

• Mobile Combustion

Mostly from gasoline and diesel used in construction and corporate vehicles.

• Fugitive Emissions

Mostly from refrigerants added to refrigeration equipment.



Indirect greenhouse gas emissions from electricity and heat sourced by the Group.

Scope 3 (Value Chain Emissions)

All other indirect emissions generated in the Group's value chain.



Note: Categories in green are applicable to Sino-Ocean Group.

This marks the first time for Sino-Ocean to overhaul its scope 3 emissions. In the future, we will continue to improve our methodology and data collection practice to enhance the accuracy and granularity of the audit to better track targets and refine emission reduction measures.

Sino-Ocean Group's Carbon Neutrality Strategy and Pathway

Sino-Ocean Group's Carbon Neutrality Strategy

- Vision To become an advocate and pioneer in building healthy, green, climate-friendly and sustainable cities and communities.
- Positioning To focus on the carbon neutrality pathway and initiatives in the main business (real estate), guide new business lines toward a clear direction of carbon neutrality, and achieve the win-win objective of business growth and carbon neutrality.

Objectives

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To remain focused on low-carbon product designs for the main business line of real estate development, and integrate the low-carbon concept into Sino-Ocean's healthy building system;

To go on building increasingly stronger low-carbon operation capabilities, and produce a model product in the near term that exemplifies low-carbon values;

To unleash the potential of synergetic business lines in empowering the main business line to reduce carbon footprint, and strengthen the moat of low-carbon technology;

To partner with relevant stakeholders to jointly promote carbon neutrality throughout the value chain.

Five Major Pillars

"Zero Carbon" Products Promote low-carbon product design

"Zero Carbon" Raw Materials Accelerating upstream and downstream decarbonization

"Zero Carbon" Business Models Invest in Iow-carbon

Invest in low-carbor technologies and business models

"Zero Carbon" Operation Improve energy-efficient operation capabilities

"Zero Carbon" Assets Prioritizing low-carbon asset/protfolios

SINO-OCEAN GROUP The Road to Carbon Neutrality

Sino-Ocean 2050 **"NET ZERO" PROJECT**

Sino-Ocean Group has formulated the 2050 "Net Zero" project consisting of corporate "net zero" and social "net zero". The project will proceed in three phases, the first being the "near-term sprint" comprising the "Zero Carbon Health+" initiative.

Considering factors including market and industry environments, policy and regulation, and corporate business development, we will keep a close eye on development trends as they evolve, and review our carbon reduction pathway and target completion status on a regular basis, as well as optimizing our carbon neutrality strategy in a timely manner.

Sino-Ocean Group Illustrative Emission Pathway

Our Emission Pathway

Carbon Offset/Removal

Sino-Ocean Group's Road to Carbon Neutrality

建筑·健康 绿色先行

Building · Health and Green First

Corporate [Net Zero]

Sino-Ocean 2050 「NET ZERO 」 PROJECT Phase I: "零碳健康 +"行动

Building-Health and Green First

The "Sino-Ocean Healthy Building System"

Sino-Ocean Group took the lead in starting to systematically build healthy and harmonious human settlements in 2015, and independently developed the "Sino-Ocean Healthy Building System". Drawing from 7 years of in-depth experience and research while keeping sight of medical studies, Chinese user habits and a systematic approach, Sino-Ocean has successfully achieved upgrades in the five health dimensions of the "Sino-Ocean Healthy Building System", i.e., healthy indoor environment, healthy building, healthy outdoor environment, healthy site selection, and healthy community culture. The upgrades include 21 scenario systems, 89 value elements, and 256 implementation details.

Three Major Characteristics

Health solutions for physical environments

Guidance for healthy lifestyles Integration of sustainable low-carbon technology

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The "Sino-Ocean Healthy Building System" puts people at the center and ensures that health and a low carbon footprint are integrated into the system. Through sustainable concepts like low-energy equipment, renewable energy adoption, and a green supply chain, the System has given rise to a low-carbon and sustainable technology strategy and operation & maintenance model, accounting for more than 40% of the System.

Value Elements

Low-carbon, Sustainable Technology Strategy, Operation and Maintenance Model Wuxi Ocean Taihu Milestone

Carbon Saving per Year

1,764 tons

Wuxi Ocean Taihu Milestone is a two-star China Green Building and a gold-certified WELL MFR (multi-user residence) project. Adopting solar panels, air source heat pumps, thermal insulation walls, and charging posts for electric vehicles, the project improves utilization of renewable energy and recycled construction materials. Promoting a comprehensive low-carbon transformation from various details, the project saves about 1,764 tons of carbon a year.

Chengdu Ocean Ecological Land

Adhering to a full-lifecycle green and low-carbon architectural design, Ocean Ecological Land in Chengdu has 20% of parking slots equipped with charging posts to help reduce fossil fuel consumption, contributing to an estimated 1,020.6 tons of greenhouse gas emission reduction per year. In addition, its showroom area will remain in use as a permanent space, which can help avoid 110 tons of steel structure materials and 150m³ of concrete that would otherwise be disposed of after demolition, thus improving the utilization rate of building materials.

GHG Reduction per Year **1,020,6** tons

Qinhuangdao Sino-Ocean Seatopia

An expansive cultural tourism project integrating apartments, houses, stacked villas, garden villas, hotels and business spaces, Seatopia has adopted a series of green measures such as solar energy, air source heat pumps, thermal insulation and structural integration, prefabricated building technology, passive house technology, solar street lights, charging posts, smart parks, and smart homes.

The whole project is equipped with smart home systems. When the room is occupied and human activity is detected, all relevant smart devices automatically adjust to optimal settings to help conserve energy. When the room is vacant, the smart system goes dormant for energy control. And when the room is left unoccupied for a long time, the smart system automatically adjusts relevant device settings to ensure normal room temperature. Through key behavior identification and strategy optimization, the smart system can bring about 10-50% of energy saving while ensuring user comfort, and help raise user awareness of energy conservation and guide user behavior.

Wuhan CITYLANE

The CITYLANE project adheres to the principle of green and low-carbon development throughout the construction process. Leveraging a comprehensive analysis of energy consumption and greenhouse gas emissions on all buildings, transit systems, street lighting, water supply and the sewage system, CITYLANE is estimated to cap the amount of CO₂ emission per person at 2.58 tons a year, which meets the "excellent" standard for CO₂ emissions under the LEED certification system. Wuhan CITYLANE has been certified Gold under LEED V4.1 Cities and Communities: Plan and Design, and the CITYLANE MINI MALL has been pre-certified Gold by WELL V2.

Refined Development and Green Operation

Energy-saving Renovations

In February 2022, Tower A of Beijing Ocean International Center was officially certified Gold by BOMA BEST[®], marking the first time an office building in North China achieves this level of certification. Renovation on the two-story underground parking lot was carried out following 15 years of operation, and an energy-efficient intelligent LED lighting system was retrofitted. In the absence of pre-planned traffic movement rules, a "Follow Me" feature was adopted to enable the lighting system to switch from energy-saving mode to normal brightness as traffic moves past, which improves energy efficiency without compromising normal traffic flows and user experience. Energy efficiency of the project rose to 89% after the renovation.

In 2022, energy-saving renovations on the hot water and central heating systems were carried out in the Sino-Ocean Senior Living L'amour · Baiwangshan (Beijing) Senior Apartment to replace the natural gas boiler with an air source heat pump system for improved energy efficiency. The renovation will help save more than 110,000 cubic meters of natural gas and reduce carbon dioxide emissions by 239 tons a year.

Natural Gas Saving **110,000** m³ **239** tons

CO₂ Reduction per Year

Clean Energy Adoption

Sino-Ocean Yingchuang Health Industrial Park Sino-Ocean Yingchuang Health Industrial Park actively responded to the call for "carbon neutrality" and took the lead in exploring and promoting the adoption of photovoltaic green energy sources. In 2021, Sino-Ocean Yingchuang Industrial Park adopted distributed photovoltaic systems that are estimated to generate 440,000 kilowatt-hours of power in 1,200 hours annually, aiming to reduce carbon emissions through clean and low-carbon energy.

1200 hours kWh

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the Ocean Logistics Park in Shunyi, Beijing

In February 2022, the distributed photovoltaic system in the Ocean Logistics Park in Shunyi, Beijing was also successfully connected to the grid and started generating power. The total area of the photovoltaic project is about 9,789 square meters, which can help save 875 tons of standard coal and reduce carbon dioxide emissions by about 2,400 tons per year. Both examples of the Group's best practice in clean power supply, the two projects' successful connection to the grid marks an important step forward on the Group's journey toward carbon emissions reduction.

square meters

Technological Innovation to Improve Energy Efficiency

Oil Control for Diesel Power Generators

It is imperative for data centers as major energy consumers to make every effort to create an efficient and lowcarbon operation & maintenance model. The Sino-Ocean Changzhou Zhonglou Data Center, by adjusting the operating mode of its cold storage tank and optimizing the control logic of its precision air conditioning system, has successfully achieved an actual PUE of 1.27 in the first half of 2022, oustripping the average PUE of all data centers nationwide (1.49) by a wide margin.²

Sino-Ocean Data has independently developed intelligent control systems including water cooling, oil control for diesel power generators and a power monitoring system, which won a number of software copyright and patent certifications, turning stand-alone technical solutions into improved operation and maintenance capabilities of the Group.

Energy Management Platform

Sino-Ocean Mechatronics, a subsidiary of the Group, has developed an integrated energy management platform to enable real-time collection, comparison and analysis of energy consumption data of buildings, as well as energy alerts, reports and other management features. Sino-Ocean Grand Canal Place and the Kempinski Hotel in Hangzhou and the Grand Canal Place in Beijing have so far become the first series of projects to put in place the energy management platform to manage energy digitally and improve energy efficiency of all equipment operation.

Green Office

It has become a regular event for the Group to switch off lights for an hour during lunch break since as early as 2010, thanks to our green office advocacy efforts. This initiative will become a routine for all offices nationwide and last throughout the year of 2022, which is expected to reduce carbon emissions by about 1,068 tons and save about 1.75 million kWh of electricity, equivalent to the annual consumption of 848 households. To build a promising and carbon-neutral sustainable future, offices around the country have taken active actions to recycle printing paper to turn them into "sustainable notebooks" for employees to use in daily work. Used furniture, air-conditioning equipment, old rugs, etc. have all been reused to decorate office space. The Group hopes to contribute to protecting our planet through these little actions.

Carbon emissions reduction per year

1,068 tons

Saving electricity per year

1.75 million kWh

Saving consumption for

848 families

Craftsmanship and Quality through Low-carbon Construction

Prefabricated Building

Sino-Ocean Group actively promotes the prefabricated building technology to effectively control and reduce energy and resource consumption during construction, while reducing construction waste disposal and environmental pollution. In recent three years, over 5 million square meters constructed by the Group have been prefabricated, and over 75% of newly launched projects in 2021 were also prefabbed. Projects like Sino-Ocean Aristocratic Family in Guiyang and Ocean Palace in Shenzhen are acclaimed as model projects for prefabbed buildings.

Ocean New Masterpiece, Hangzhou

Steel structure buildings can help reduce carbon emissions by more than 10% in building materials preparation, construction, demolition, and building recycling than traditional cast-in-place buildings.³ As Sino-Ocean's first steel structure residential project, Hangzhou Ocean New Masterpiece adopts an implicit steel frame—steel plate shear wall system in building 19 floors of prefabricated steel structures aboveand under-ground, thus laying a solid foundation for more in-depth green steel structure residential development in the future.

Investing in Zero-carbon Sectors for Green, Shared Success

A subsidiary of Sino-Ocean Group, Sino-Ocean Capital practices responsible investment, and identified environmental protection related sectors as the key focus of its equity investment as early as 2015, with priority on contributions to environmental protection and governance, as well as new green technology application. Sino-Ocean Capital has so far supported various sectors including recycling of renewable resources, sludge treatment, sponge city construction, and comprehensive services for a green and eco-friendly environment.

零碳未来 携手同行

Together for a Zero-carbon Future

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社会「净零 Social Net Zero Sino-Ocean 2050 「NET ZERO」 PROJECT Phase I: "零碳健康 +" 行动

Together for a Zero-carbon Future

"Building • Health 2030"Alliance

It is Sino-Ocean's unremitting pursuit to make shared progress with upstream and downstream value chain partners and promote green and sustainable development of the industry. In April 2021, the Group launched the "Building · Health 2030" Alliance (the "Alliance") together with the China Real Estate Industry Association and the National Residential and Residential Environment Engineering Technology Research Center through Sino-Ocean Charity Foundation. Working in concert with relevant government agencies, industry associations, international organizations, upstream and downstream suppliers and partners throughout the value chain, the Alliance attaches great importance to sustainable development, and is committed to proactively contributing to coping with global climate change, attaining the "Healthy China 2030" goal and building green, environmentally friendly and healthy communities.

Run for Charity

Through online and offline running events, the Run for Charity program calls on everyone to travel on foot and via public transportation to help reduce carbon emissions. Since the first event in 2017, the program has brought together more than 30,000 people from all walks of life to start running, with over 200,000 kilometers run so far, equivalent to more than 4 laps around the Earth. In 2022, the Run for Charity mini-program on WeChat rolled out a new "low-carbon check-in" feature that enables check-ins for low-carbon behaviors in 12 daily scenarios, e.g. riding the bus, taking the subway, walking, biking, organizing online meetings, etc. with the ability to generate personal emission reduction reports in real time. We hope to inspire every citizen to stay aware of low-carbon behavior and develop a low-carbon lifestyle through routine check-ins.

30,000_{people} **200,000**_{kilometers}

Greener Old Community, Healthier Life

The "Old Communities, New Green" charity program has been setting up model projects for environmental-friendly renovation or retrofitting projects and environmental education events in old communities since 2006, focusing on saving water through multiple channels, planting rural plants, adopting renewable/ recycled resources, conserving energy and reducing emissions. The program has so far reached more than 800 residential communities across 17 provinces and cities, benefiting at least 40 million people. In 2021, the program was upgraded and renamed as " Greener Old Community, Healthier Life ", and saw the successful completion of China's first old community renovation pilot project in Sino-Ocean Paradise community. New technologies, renewable energy sources and environmentally-friendly materials were widely adopted in the renovation, including solar charging, material recycling, and world-leading eco-friendly plastics, etc., to ensure environmental and human health.

"Seafaring Studentsin-Action Incentive Scheme"

1,028 projects **10,9** million+ students

The "Seafaring Students-in-Action Incentive Scheme"— "Building Healthy Future" Architectural Design Competition seeks to help university students focus on the concept of "Building · Health" and encourage them to employ professional knowhow and skills to create healthier and lower-carbon designs. As of 2021, 1,028 projects from 307 institutions of higher education in 104 cities across the country have been onboarded, bringing inspiration to 10.9 million+ university students. The "Building Healthy Future" Architectural Design Competition has been advocating "Net Zero Carbon Architecture" as its theme since 2021, to inspire students to seek breakthrough designs around "carbon neutrality", champion pioneering thinking of carbon neutrality in the real estate industry, and amplify the positive impact on the environment. In 2022, the competition focuses on effective application of smart low-carbon technologies and implementation of pioneering design concepts like "net-zero carbon architecture" and "healthy architecture" in contemporary architecture practice, seeking to promote green, healthy and sustainable real estate development in China.

Advocating widespread social awareness of the importance of cultivating children's sense of social responsibility, the "Young Citizen" innovative charity program encourages children and teenagers to identify issues, ask questions, and solve problems from their unique perspective. As part of the program, the 2021 "Zero Carbon Campaign to Drive a Green Future" campaign catered to primary and secondary schools' students nationwide and received enthusiastic response. In 2022, Sino-Ocean Charity Foundation continued to work with the Publicity and Education Center of the Ministry of Ecology and Environment to focus on "zero carbon" and the theme of "Zero Carbon Creativity for a Green Life", to encourage primary and secondary school students to engage in innovative thinking and creative efforts in learning and contributing to climate change response. The campaign inspired these "young citizens" to take the lead in addressing climate change and explore green, low-carbon approaches to sustainability centered around "carbon reduction and carbon neutrality".

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Outlook

This report is Sino-Ocean Group's first carbon neutrality report, and marks the beginning of our journey toward carbon neutrality. We are committed to deepening our practice in terms of "zero carbon" products, "zero carbon" operations, "zero carbon" raw materials, "zero carbon" assets and "zero carbon" business models as per our carbon neutrality strategy, to make unrelenting efforts to achieve the goal of carbon neutrality. We will regularly review and update our carbon reduction roadmap and relevant goals based on changes in environmental trends and our corporate development status, and continue to benchmark ourselves against global best practices to provide greener and healthier momentum to Sino-Ocean's journey toward carbon neutrality.

Far from being an empty slogan, "Carbon neutrality by 2050" is the signpost for our quest forward. We firmly believe that with every challenge come opportunities for transformation. As we sail toward a carbon neutral 2050, we will unlock a new era of healthy, green, climate-friendly and sustainable cities and communities. Trying as it will be to sail against headwind, we have firm conviction that we will inspire strengths in other and create a healthy, zero-carbon future toget! er.

Appendix

Standard methodological and guidelines referenced for greenhouse gas accounting

The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (REVISED EDITION), World Business Council for Sustainable Development (WBCSD) & World Resources Institute (WRI), 2003

The Greenhouse Gas Protocol Scope 2 Guide, World Business Council for Sustainable Development (WBCSD) & World Resources Institute (WRI), 2015

Accounting Methods and Reporting Guidelines for Greenhouse Gas Emissions by (Corporate) Public Building Operators (Pilot), General Office of the National Development and Reform Commission, 2015

Accounting Methods and Reporting Guidelines for Greenhouse Gas Emissions by Industrial and Other Industry Enterprises (Pilot), General Office of the National Development and Reform Commission, 2015

GBT 51366-2019 Calculation Standard for Carbon Emission from Buildings, Ministry of Housing and Urban-Rural Development of the People's Republic of China, 2019

IPCC Fifth Assessment Report (AR5)

Accounting Methods and Reporting Guidelines for Greenhouse Gas Emissions by Enterprises, Power Generation Facilities (Revised in 2021), Ministry of Ecology and Environment, 2021

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SINO-OCEAN GROUP HOLDING LIMITED

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Sino-Ocean Group's Official public account