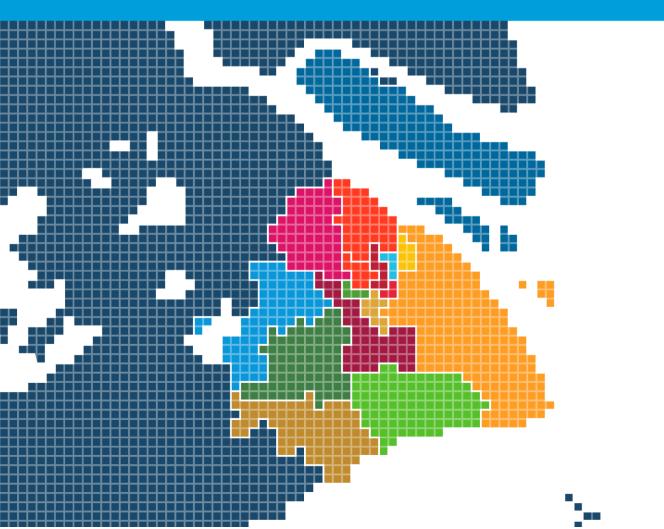


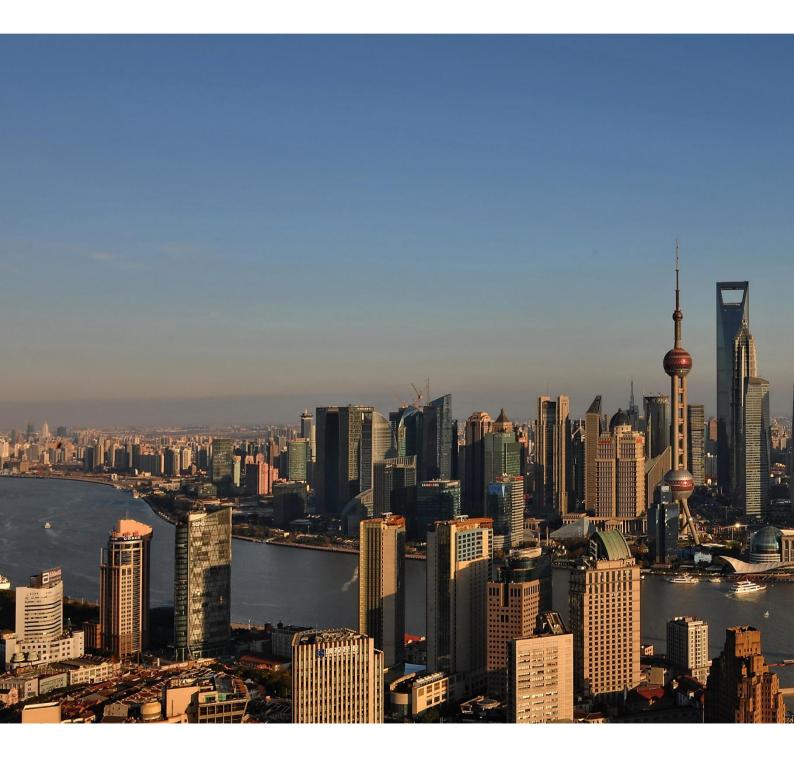
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UN SDGs Shanghai Voluntary Local Review

(2021)





Toward the Innovation, Humanity and Green Path:

a Megacity's Sustainable Development Practice

UN SDGs Shanghai Voluntary Local Review 2021



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Prospects



Shanghai – international center of economy, finance, trade, shipping, scientific & technological innovation

Shanghai has been built into an international center of economy, finance, trade, and shipping, and established a basic framework for making itself a scientific and technological innovation center with global influence. In 2020, Shanghai ranked 6th in the world in terms of GDP, and boasted 771 regional headquarters of multinational corporations, and has risen to 3rd place in the Global Financial Center Index (GFCI). Shanghai Port has ranked first in the world for 11 consecutive years in terms of container throughput, while the airport ranked 3rd and 4th in terms of cargo throughput and passenger throughput. respectively. The R&D expenditures accounted for over 4% of the city's GDP. Looking forward to 2035, Shanghai will be built into an attractive innovative, humanistic, and ecological city, and modern socialist cosmopolis with global influence.

Shanghai - international cultural metropolis as well as a national historic city of China

Shanghai is a cultural cosmopolis and a famous historical and cultural city of China. It witnessed the rise of the Majiabang culture more than 6,000 years ago, Songze culture 5,000 years ago, and Liangzhu culture 4,000 years ago and has been inspired by the red culture, Shanghai-style culture, and the culture prevailing in the south of the Yangtze River. As one of the most internationalized cities in China, Shanghai has been rated as "the most attractive city in China to foreign talents" for eight consecutive years. Today, with a spirit of "understanding, commitment to excellence, tolerance of diversity and generosity" and a character of "openness, innovation, and inclusiveness", Shanghai will strengthen its soft power as the leading force in China and as an influential city in the Asia-Pacific and the world, while serving as an exemplary city to demonstrate Chinese ideas, Chinese spirit, and the Chinese approach to the world.

Shanghai - core city of the world-class urban agglomeration in the Yangtze River Delta

Shanghai is located in the east of China and at the mouth of the Yangtze River, facing the Pacific Ocean. The Yangtze River Delta, formed by Shanghai and its neighboring Zhejiang Province, Jiangsu Province, and Anhui Province, is one of the most active, open, and innovative regions in China. A core city of the world-class urban agglomeration in the Yangtze River Delta, Shanghai is playing a leading role and driving the high-quality development of this region forward. Furthermore, Shanghai is making every effort to provide services and integrate itself into the new development pattern, so as to build the central node of the cycle inside China and the strategic link for dual cycles inside and outside of China at a quicker pace.

Shanghai - pioneer in the reform and opening up, innovation and development in China

Since 1978, Shanghai has explored a path of scientific development with the characteristics of a megacity and it has become a pioneer in the reform and opening up, innovation, and development in China. It has built a modern industrial system with a modern service industry as the mainstay, strategic emerging industries as the guide, and advanced manufacturing as the support. At present, Shanghai is accelerating the construction of a new, higher-level, and open economic system, so as to comprehensively improve its capacity and core competitiveness, and transform itself into a source of innovation and a shrine of intelligence that can lead the world toward the future.

1



Introduction

Shanghai is one of the municipalities directly under the central government in China and a core city of the world-class urban agglomeration in the Yangtze River Delta, with an area of 6,340.5 square kilometers and a population of 24.87 million. After the opening up as port for trade in 1843, Shanghai has gradually developed into the financial, trade, and economic center of the Far East, a place where Chinese and Western civilizations blend, and an important channel for China's communication with the world. After the founding of the People's Republic of China, Shanghai has further strengthened its ties with other cities in the country and services for domestic economic and social development. Since the reform and opening up, Shanghai has actively promoted innovation and transformation in accordance with the national strategy. As the regional GDP has increased approximately 140 times, the city has jumped to the top of the world in terms of gross scale. Moreover, with the per capita GDP exceeding USD 23,000, Shanghai is now on par

with developed or moderately developed countries. Shanghai is pushing up its capacity and core competitiveness and has achieved overall enhancement in terms of core functions and global influence.

China has always required the sustainable development of Shanghai, which is also the all-time goal of the city itself. In 2010, Shanghai hosted the six-month-long World Expo with the theme of "Better City, Better Life", as it is committed to integrating the concept of sustainable development with urban development that can be shared by all. On the closing day of the World Expo (October 31), the *Shanghai Declaration*, which brought together important thoughts of the World Expo, was officially released, proposing to build a harmonious city through innovation to achieve sustainable urban development. Meanwhile, the Chinese government proposed to celebrate the "World Cities Day" on October 31 every year, which was passed at the 68th Session of the United Nations General Assembly as the first international day promoted by China at the United Nations.





Figure 2 Shanghai Manual

Since 2014, "World Cities Day" events such as celebrations, forums, exhibitions, publicity, and promotion have been held around the world. The *Shanghai Manual: A Guide for Sustainable Urban Development in the 21st Century*, an iconic achievement, includes outstanding cases in the field of sustainable urban development on a global scale and has been published every year since 2016. It has become an important international document promoting global urbanization and sustainable development, and one of UN-Habitat's important outcome documents for implementing the *New Urban Agenda* and the SDGs.

Transforming our world: the 2030 Agenda for Sustainable Development was signed by 193 countries at the United Nations Sustainable Development Summit on September 25, 2015, as the framework document following the *United Nations Millennium Declaration* published in 2000 on the global development process. The 2030 Agenda was officially launched on January 1, 2016, proposing 17 Sustainable Development Goals (SDGs). SDGs seek to consolidate the development of the Millennium Development Goals, enable all people to enjoy human rights, and take into account the three aspects of sustainable development, i.e. economy, society, and environment. In September 2016, China issued the *China's National Plan on Implementation of the 2030 Agenda for Sustainable Development*, which provides general guidance for local governments to implement the 2030 Agenda based on local conditions.



Figure 3 17 SDGs of the 2030 Agenda

The *Shanghai Master Plan (2017-2035)* released in 2018 proposes three goals for building the city into "a city of prosperity and innovation", "a city of happiness and humanity", and "a city of green and resiliency", which correspond to the three areas of sustainable development - "economy, society, and environment". In terms of the development model, Shanghai emphasizes the "bottom-line control" over population, land resources, ecological environment, and safety protection, so as to drive "cultural development" with innovation, urban renewal, quality improvement, and

integration of urban and rural areas, and achieve "adaptation in a flexible manner" by means of scenario planning, leaving blank space, flexible layout, and dynamic adjustment. Since the promulgation and implementation of the new round of master plans, Shanghai keeps accumulating practical experience in sustainable development by carrying out the important concept that "a city that puts people first is built by the people and for the people", implementing the regional integrated development strategy for the Yangtze River Delta, and advancing urban governance modernization.

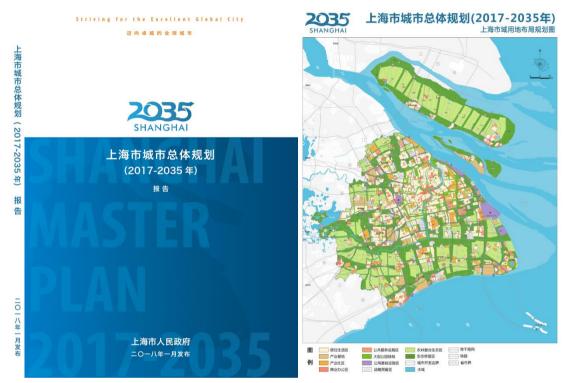


Figure 4 Shanghai Master Plan for 2035 released in 2018

Within the target framework of the 2030 Agenda, international cities such as New York, Los Angeles, Helsinki, and Barcelona, and Chinese cities like Guangzhou and Yiwu have launched voluntary local reviews of their respective progress and efficiency in SDGs. At the invitation of UN-Habitat, Shanghai, the city that initiated the "World Cities Day", will release the *UN SDGs Shanghai Voluntary Local Review* at the China Observance of World Cities Day 2021 and the First SDG Cities Forum Global Conference, and will join the UN SDG Cities Flagship Program and make SDGs related work regular to promoting its sustainable development.



Review Method and Process

The Shanghai VLR is jointly prepared by relevant departments of the Shanghai Municipal People's Government, research institutions, expert consultation committees, and relevant social organizations. The preparation of the report relies on cross-departmental collaboration and involves nearly 20 governmental departments in specialized assessments, with a wealth of cases to show the latest practical results provided. The expert consultation committee composed of experts from various fields and authoritative experts in economic, social, ecological, and other related fields serve to select and discuss the priority target for review and related indicators. Public participation from multiple channels and a survey of satisfaction of urban residents and community management staff with urban human settlement environment in terms of livability, security, vitality, and management are required (18,739 questionnaires were collected in 2020).



Figure 5 Age distribution of respondents to the Survey Questionnaire on Social Satisfaction with Urban Human Settlement Environment in 2020



Figure 6 City Examination Index System

The Shanghai VLR was prepared with reference to the Handbook for the Preparation of Voluntary

National Reviews by the Division for Sustainable Development Goals in the United Nations Department of Economic and Social Affairs (UNDESA) and the *Guidelines for Voluntary Local Reviews* by the UN-Habitat in terms of paradigm. Reference was also made to *China's VNR Report on Implementation of the 2030 Agenda for Sustainable Development* issued by the Ministry of Foreign Affairs of the People's Republic of China in June 2021 and to relevant information from the 2030 Agenda for Sustainable Development on the ministry's website. Results from the implementation of the SDGs in other cities inside and outside of China were analyzed and studied based on the large amount of information provided on the United Nations website for SDGs.



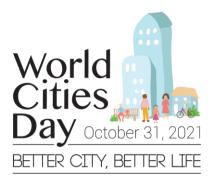
Figure 7 China's VNR Report on Implementation of the 2030 Agenda for Sustainable Development(released in 2021)

In terms of review targets and index selection, the Shanghai VLR Report working group referred to *China's National Plan on Implementation of the 2030 Agenda for Sustainable Development*, *China's SDGs Index Construction and Progress Evaluation Report 2018*, and proposals from experts in related fields, for building a localized VLR evaluation framework for Shanghai.

In terms of specific reviews, the Shanghai VLR Report has been prepared by referring to the existing research results, such as the evaluation of the implementation of the Shanghai Master Plan, the evaluation of the five-year plan for national economic and social development, Shanghai Manual from past years, and the annual report on Shanghai City Examination.

During the first evaluation, Shanghai reviewed the logical relationship between the current visions and goals for urban development strategy and the 17 SDGs. Based on that, and in combination with recent sustainable development practices of Shanghai, and the theme of 2021 World Cities Day "*Adapting Cities for Climate Resilience*", seven priority targets for review in the voluntary

review in 2021 have been identified: SDG1 - No Poverty; SDG3 - Good Health and Well-being; SDG4 - Quality Education; SDG8 - Decent Work and Economic Growth; SDG11 - Sustainable Cities and Communities; SDG13 - Climate Action; SDG15 - Life on Land. The results of the 2021 annual report include the introduction, review method and process, response of Shanghai to SDGs, annual priority targets for review, and prospects.



Adapting Cities for Climate Resilience

Figure 8 Theme of 2021 World Cities Day - Adapting Cities for Climate Resilience



Figure 9 Schematic diagram of the review technique framework



An Overview of Response of Shanghai to SDGs

Response of Shanghai to SDGs

In the *Shanghai Master Plan (2017-2035)*, the visions of building the city into "a more dynamic innovation city", "a more attractive humanistic city" and "a more sustainable eco-city" are proposed. Logically, the strategic target and vision system of Shanghai is closely linked to SDGs (Figure 10). Relationship between the SDGs and the city target and vision system of ShanghaiUnder the vision of "building a modern socialist cosmopolis with global influence", Shanghai has proposed three targets, in close relation to three aspects of sustainable development. The target of building "a more dynamic innovation city" corresponds to the economic sector. That of building "a more sustainable eco-city" corresponds to the social sector, and that of building "a more sustainable development, 17 SDGs and 169 specific goals have been established. Shanghai has proposed 12 sub-goals in the three aspects and accumulated practical experience in sustainable development by implementing the important concept of a "people-centered city", along with other measures.



Figure 10 Relationship between the SDGs and the city target and vision system of Shanghai

Correspondence between the targets of Shanghai and SDGs

The report has established the logical relationship between the three targets of Shanghai and 17 SDGs (Table 1 Logical Relationship between the three targets of Shanghai and SDGs). It is worth noting that each SDG has significant meanings, and the logical relationship described above embodies the most important response relationship only.



Table 1 Logical Relationship between the three targets of Shanghai and SDGs

Note: All the three targets of Shanghai have a response relationship with SDG17 "Partnership for the Goals".

• A City of Prosperity and Innovation

To build itself into a more dynamic innovation city, Shanghai aims to: enhance the city's core functions, cultivate the city's innovation capabilities, build an industrial system for the coordinated development of the real economy, technological innovation, modern finance, and human resources; build a more open international hub, improve the influence of services at a domestic and global scale, and enhance the global resource allocation capability; strengthen the convenient and efficient comprehensive transportation support; create a more attractive environment for employment and entrepreneurship. In this process, Shanghai needs to promote sustained,

inclusive, and sustainable economic growth, assure employment, build infrastructure for the industry, innovation, and environment, and promote the equalization of public services and sustainable consumption and production models.

• A City of Happiness and Humanity

To build itself into a more attractive humanistic city, Shanghai will build communities that are suitable for living, working, studying, and traveling, improve the basic public service system for fair sharing, flexibility, and inclusiveness, build an affordable and sustainable housing supply system, stimulate its cultural vitality, protect historical and cultural heritage, highlight urban and rural features, and enhance its soft power. In this process, Shanghai needs to keep improving people's sense of gain and happiness, promote high-quality development of education, provide more support for disadvantaged groups, achieve social fairness and justice, promote affordable clean energy, and establish a sustainable city and communities.

• A City of Green and Resiliency

To build itself into a more sustainable eco-city, Shanghai will address challenges such as global climate change, transform means of production and living, enhance the ecological quality on the whole, build a multi-level, networked, and functionally complex ecological space system, and construct a government-led and enterprise-based environmental governance system with social organization and public participation; improve urban safety and security, strengthen the construction of basic, functional, and networked urban infrastructure systems, improve the capabilities of municipal infrastructure for safeguarding and serving urban operation, and increase the city's resilience against disasters. In this process, Shanghai needs to continuously improve the environmental quality such as the atmosphere, ocean, water, and soil, protect biodiversity, and promote low-carbon, green development.

Key Measures of Shanghai to Promote SDGs

In recent years, Shanghai has achieved significant progress in promoting sustainable development. Table 2 Key measures of Shanghai to achieve SDGsIn line with the 17 SDGs, Shanghai has taken creative measures and achieved remarkable results (Table 2). On that basis, priority reviews have been conducted in the 2021 report for 7 SDGs (SDG1 - No Poverty; SDG3 - Good Health and Well-being; SDG4 - Quality Education; SDG8 - Decent Work and Economic Growth; SDG11 - Sustainable Cities and Communities; SDG13 - Climate Action; SDG15 - Life on Land).

17 SDGs	Shanghai's Measures
1 ^{no} poverty Ř*ŤŤŤŤ	 Improving the relief system for those in need Improving the level of social assistance and security based on a scientific system Helping other regions in China to achieve poverty alleviation
2 ZERO HUNGER	 Promoting high-quality development of modern agriculture Developing provenance technology and creating new highlands for the development of the seed industry Staying above the red lines for conservation of cultivated land Stopping food waste on both the consumption and supply sides
3 GOOD HEALTH AND WELL-BEING	 Promoting high-quality coverage of medical insurance Improving the public health emergency system Properly pre-controlling women's pregnancy risks Implementing a clean air plan Strictly controlling tobacco use Promoting the prevention and control of traffic safety hazards
4 QUALITY EDUCATION	 Promoting equal allocation of compulsory education resources Promoting the development of childcare services Promoting high-quality development of vocational education Achieving accurate coverage of special education Building a community-based education network Establishing a lifelong education credit bank
5 EQUALITY	 Promoting full coverage of mother-and-child facilities in public places Facilitating high-quality employment for women Providing multi-faceted support for women's employment and entrepreneurship Establishing the Gender Equality Consultation and Evaluation Committee
6 CLEAN WATER AND SANITATION	 Strengthening the ecological protection of drinking water sources Renovating and updating water supply pipelines and secondary water supply facilities for long-term use Strengthening joint prevention and control of water pollution in the Yangtze River Delta
7 AFFORDABLE AND CLEAN ENERGY	 Vigorously promoting the construction of wind power and photovoltaic power generation projects Improving the reliability and intelligence of the power grid Implementing energy-saving and emission reduction strategies Implementing tiered electricity pricing for residents and giving priority to basic needs
8 DECENT WORK AND ECONOMIC GROWTH	 Improving the vocational guidance service system Encouraging innovation and entrepreneurship Helping youths find jobs Strengthening employment assurance for disadvantaged groups Promoting the stable development of enterprises

Table 2 Key measures of Shanghai to achieve SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	 Promoting the digital transformation of cities Strengthening the construction of sources and planning for scientific and technological innovation Strengthening the leading function of high-end industry Advancing the construction of new infrastructure
10 REDUCED INEQUALITIES	 Promoting the equalization of basic public services Providing public service resources for the whole population Further advancing the reform of the household registration system Increasing the supply of public rental housing
11 SUSTAINABLE CITIES	 Continuing to promote the renovation of old districts and old houses Constructing a high-quality bus transport system Advancing the sponge city development in an all-round way Promoting the development of green buildings and energy conservation Building a world-class waterfront area Improving the grass-roots governance efficiency
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	 Respecting the constraint of natural environment and resource carrying capacity Reducing the use of land for inefficient construction Promoting efficient and multiple utilization of land resources Promoting efficient allocation of resources for industrial development
13 CLIMATE Action	 Strengthening the assessment of the impact of urban climate change Strengthening the ability to defend against natural disasters Accelerating the "carbon emissions to peak" and building a low-carbon, green city Promoting the construction of carbon trading platforms and markets Vigorously promoting new energy vehicles
	 Promoting coastal ecological restoration projects Strengthening the construction of marine environment monitoring capacity Strictly managing the sea reclamation plan and regional planning for sea use Strengthening the building of marine disaster emergency response capabilities
15 LIFE ON LAND	 Protecting and improving the wetlands of the Yangtze River estuary Protecting biodiversity Conducting overall planning to promote the construction of parks on the outskirts of the city Controlling soil pollution risks on construction land and making restoration Promoting classification of household waste
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	 Improving the urban governance capacity by involving people's democracy throughout the whole process Implementing a negative list system for market access Promoting the building of an "all-in-one" smart government Allowing overseas arbitration institutions to set up offices in Lin-gang Special Area
17 PARTINERSHIPS FOR THE GOALS	 Giving full play to the role of the Belt and Road Initiative as a bridgehead Hosting the China International Import Expo (CIIE) annually Implementing the integrated development strategy for the Yangtze River Delta Building the Hongqiao hub opening to the outside world



Priority Review Targets and Progress



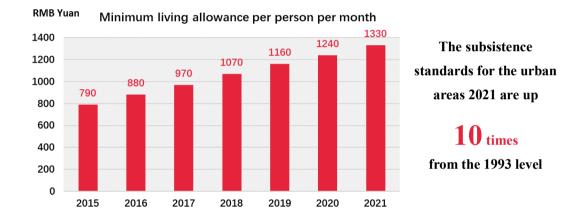
SDG1 No Poverty



End poverty in all its forms everywhere

Key indicators

Residents' subsistence standards continuously improved



Remarkable results achieved in poverty alleviation in areas with one-on-one assistance

 Dispatch talents for aid work

 person-time

 1200

 1000

 900

 800

 2018
 2019

Areas that have obtained one-on-one assistance from Shanghai are found in

Dispatch cadres for aid work

person-time

400
200
100
0

2019

2020

2018

7 provinces, 20 cities or autonomous prefectures, and 101 counties in China.

Work Overview

Among other with high economic development and human development index in China, Shanghai exerts an exemplary role with its exploration and achievements for SDG1: No Poverty. Toward this goal, Shanghai is committed to improving the relief system for the needy in the city and the living standards of all citizens. It will also help other regions in China individually to shake off poverty and lay the foundation for achieving common prosperity in China.

Main Progress

Shanghai has established a subsistence policy system with scientific classification and differentiated assistance. It can ensure the basic subsistence for disadvantaged groups and carry out special assistance, scientifically classified and differentiated, for citizens with prominent difficulties in medical care, education, housing, and employment.

The subsistence allowance standard in rural and urban areas of Shanghai has been continuously raised and unified. Since its establishment, the subsistence allowance system has been adjusted 25 times for the urban areas of Shanghai and 21 times for rural areas. In 2015, Shanghai became the first city in China to implement the same subsistence allowance standard for urban and rural areas. In 2021, the standard was elevated to RMB 1,330 per person per month, up 10 times from the 1993 levels in urban areas.

The level of social assistance in Shanghai has been constantly improved. It has set up a mechanism that links assistance standards with rising prices, employment incentive policies for recipients, and a social assistance and support system based on digital technology, and improved the mechanisms and channels for involving social forces in social assistance.

Shanghai has promoted the development of poverty-stricken and backward areas in China by providing one-on-one assistance and engaging itself in the poverty alleviation cooperation between the east and the west (hereinafter referred to as "counterpart assistance"). By the end of 2020, areas that have obtained one-on-one assistance from Shanghai could be found in 7 provinces, 20 prefectures and cities, and 101 counties and districts in China. All impoverished people in rural areas had been lifted out of poverty according to the current standards, significantly improving the living standards of the people.

Specific Measures

(1) Improving the relief system for the needy

Building the framework of the social assistance system

This modern social assistance system aims to provide three categories of assistance as its main body and cooperates with social forces such as charities as its supplementary to provide social aid. The three main categories consist of basic life assistance, including offering subsistence allowance, supporting the extremely poor, and spending-type impoverished households; special social assistance, including medical assistance, education assistance, housing assistance, employment assistance, and assistance for people who are suffered by disasters; and temporary social assistance for the heavily impoverished and those caught in unexpected misfortunes.

• Forming a three-tier team of social assistance agencies

Shanghai has built a team of social assistance agencies that integrates forces at the city, district, county, subdistrict, and township levels. The ratio of social assistance workers to residents exceeds one in ten thousand, and the social assistance forcing at the subdistrict and township levels will be included in the subdistrict and township levels of the community affairs acceptance service center. Resident (village) committees, commissioned by village and township governments, will assign personnel for social assistance.

• Clarifying the scope and details of the 6 types of social assistance

Shanghai has improved the relevant social assistance system, clarified the scope of social assistance, and provided corresponding and classified social assistance for households with subsistence allowances, low-income households with difficulties, spending-type impoverished households, extremely poor people, people affected by natural disasters, and people for temporary assistance according to the economic status or actual difficulties of the households. Shanghai has also ensured the subsistence of residents by offering medical, education, employment, housing, and emergency assistance.

The "Bridge Project" in Jing'an District

Mo Yixin (not her real name), a resident of Caojiadu Sub-district, Jing'an District, is a 10-year-old girl from a family with particular difficulties. The marriage of her parents ended in divorce when she was about 1 year old. Later, both of them got married and had children again. Therefore, she was brought up by her great-aunt and her parents would come to visit her regularly.

The "Bridge Project" in Jing'an District is a family-oriented social assistance project. Social workers from the project visited her and confirmed that the long-term lack of parental care and inter-generational relationship may have harmed her mental health. So it was decided that the project would assist Mo Yixin. First, it helped to promote parent-child communication. The social workers included her great-aunt in the "Caojiadu Parent-Child Communication Support Group" for learning about parent-child communication skills, to change the way of educating. Second, educational resources were integrated; given Mo Yixin's poor academic performance, social workers tutored her by providing oral English resources for public benefit and college student volunteers to help her study. Third, the living environment was improved. They used public welfare resources to renovate their house, to solve the practical problem that they were both sleeping in one small bed.

(2) Improving the level of social assistance and security in a scientific manner

Building an assistance mechanism with regularly adjusted standards

Based on a comprehensive consideration of the development level of the economy and society, residents' living standards, and the rising prices, Shanghai has continuously raised the assistance standards year by year, so that disadvantaged groups can share the results of the city's economic and social development. When the monthly increase of the consumer price index reaches or exceeds 3.5%, or the monthly increase of the food price index reaches or exceeds 6%, temporary price subsidies will be provided for people and households in need, such as subsistence allowance recipients, the extremely poor, and the unemployed.

Implementing employment incentive policies for recipients

For newly employed people who apply for subsistence allowances, some taxable income can be exempted for verifying the household income. Nearly 100,000 people benefit from this policy every year. For employed people from poor households who quit the subsistence allowances, a gradual retreat assistance system is applied. Besides, Shanghai has provided employment services and employment incentives for people able to work that are currently unemployed and from households with subsistence allowances using social insurance subsidies, job subsidies, vocational training subsidies, vocational skill appraisal subsidies, fee reduction, or exemption. These people are also offered public welfare jobs.

Building a social assistance and support system based on digital technology

Shanghai has built a social assistance service management information system that achieves information exchange and data integration between the social assistance information management system and the residents' economic status verification system connected at the city, district, subdistrict, and town levels. Currently, an information exchange mechanism has been established between the residents' economic status verification system and 16 industry-related departments such as human resources and social security, taxation, industry and commerce, and real estate. It

has also been applied to projects such as subsistence allowance, temporary assistance, pension service subsidies, employment assistance, and legal assistance.

• Encouraging social forces to participate in social assistance

Shanghai encourages and supports social forces such as enterprises, institutions, social organizations, and volunteers to participate in social assistance through donations, the establishment of assistance projects and service organizations, voluntary services, comprehensive community-based assistance, and financial aid for commercial insurance. The social assistance management departments and related institutions have established mechanisms and channels for social forces to participate in social assistance.

"Little Wish" public welfare platform in Hudong Xincun Subdistrict, Pudong New Area

Based on the "Little Wish" public welfare platform in Hudong Xincun Subdistrict, Pudong New Area, the demand of the needy will be gathered together so that relevant social organizations, enterprises, party members in the community, and citizens can provide one on one assistance and support to bridge the distance between disadvantaged groups' needs and the warm care of the public welfare forces. Since July 2014, the "Little Wish" activities of Hudong have been successfully held 13 times. "Little Wish" has continuously expanded, first into a public welfare service for mutual help and later into a "Micro Project". In total, 1,456 wishes have been realized, including 123 "Little Wishes" and 45 "Micro Projects".

The "Little Wish" in each season, once released, quickly attracts attention from volunteers, residents, and organs in the district, who help organize the activities. People who help fulfill the wishes include employees, ordinary social workers, community residents, and students. People actively help to carry out these public benefit tasks, which enriches the cultural profoundness of the community. "Little Wish" has been recognized by residents, and has changed the idea and concept about the governance of communities by subdistricts and thus the atmosphere of community participation. The "Little Wish" activities have benefited the extremely poor groups in the community. With "Internet +", a public welfare platform has been built and a new space for community-based autonomy and co-governance has been created.

(3) Helping other regions in China one on one to achieve poverty alleviation

• Encouraging social organizations to participate in poverty alleviation

Shanghai has formulated guidelines that encourage social organizations to participate in poverty alleviation, fund social welfare projects, and leverage social funds to support various social organizations in Shanghai for counterpart assistance. Large-scale social assistance activities have been held, including the fair for exhibition and sales of specialty products from areas for which Shanghai provides assistance, the event under the theme of "Shanghai Charity Partner Day", and the special action for "Cooperation between A Hundred Enterprises and A Hundred Villages", which created a good atmosphere for social participation.

• Promoting poverty alleviation through consumption and building a poverty alleviation industry chain

By increasing industrial assistance, Shanghai has injected 60-70% of assistance funds into industrial fields and focused on local leading industries, traditional industries, and emerging industries with unique resource endowments and great market potential, so as to create a poverty alleviation industrial chain. It has facilitated poverty alleviation through consumption, connect production, supply and marketing procedures, and paid attention to standardization, quality improvement , and branding of special agricultural products, so as to ensure that local products can be properly delivered and sold after having been produced in assisted areas .



Figure 11 Songjiang District of Shanghai provides assistance for Xishuangbanna of Yunnan: Songjiang Rice Experimental Base for Shanghai-Yunnan Industrial Poverty Alleviation Cooperation

Promoting labor cooperation and enhancing endogenous power

By formulating labor cooperation policies, Shanghai assigns about RMB 300 million of funds as support to impoverished people in labor skill training, job stabilization subsidies, intermediary service subsidies, subsidies for migrant workers, and development of public service positions. It has helped people from Yunnan and Guizhou transfer for employment and achieved the target that "one person employed will lift the whole family out of poverty".

Spring Airlines recruits flight attendants from counterpart areas

Since 2018, Spring Airlines has recruited and trained flight attendants from Honghe Prefecture, Yunnan Province, with counterpart assistance from Shanghai. It reduces initial training fees, provides accommodation and meal subsidies for students in straitened circumstances, and carries out "one-on-one" assistance. There were 35 people in the first batch of trainees going from Honghe to Shanghai for the training. After one year of intensive training, 34 of the trainees had become qualified flight attendants and signed formal labor contracts with the company to enjoy an average monthly income of over RMB 8,000 per person.

Since 2020, Spring Airlines and the School of Air Transportation of Shanghai Open University have jointly launched the Honghe "Blue Sky Dream Weaving Project". Based on the model of "academic education + skill training", poverty-stricken graduates from the counterpart area are trained to become flight attendants. The first batch of participants of the Blue Sky Dream Weaving Project included 18 trainees, with 14 completing the initial training for flight attendants one year ahead of schedule and becoming qualified flight attendants on probation. In 2021, Spring Airlines recruited 15 trainees in the second batch of people from Honghe Prefecture, Yunnan Province, while also admitting people from Zunyi, Guizhou Province, so as to help poor people find jobs.

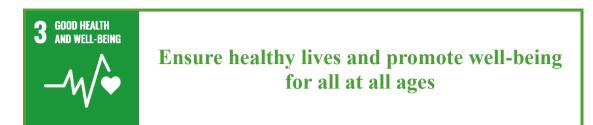
• Improving education, medical care, and housing standards for people from areas entitled to the counterpart assistance

In terms of education, Shanghai has helped improve the teaching quality at primary and secondary schools in counterpart areas by establishing a distance education sharing platform and promoting the standardization of schools for basic education. In terms of health and medical care, Shanghai has sent teams and groups to these areas to provide medical care, promoted the construction of the united medical institution where "different divisions are placed in the charge of specific hospitals" and composed of "Shanghai + counterpart cities (prefectures) + counterpart counties and townships", established a telemedicine platform, strengthened the professional training for grassroots medical staff and practicing physicians, and assisted in the construction of physical and cultural facilities. With regard to the construction of housing and supporting facilities, Shanghai has promoted the implementation of projects to help farmers and herdsmen settle down, live a good life, and increase their income by assisting in the construction of resettlement houses, repairing and renovating houses, and giving housing subsidies to poor households.



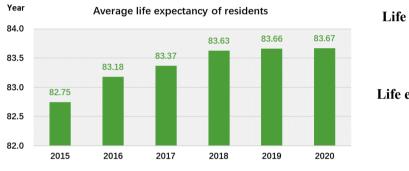
Figure 12 View of Sogai Village in Gyangze County, Tibet, assisted by Shanghai

SDG3 Good Health and Well-being



Key indicators

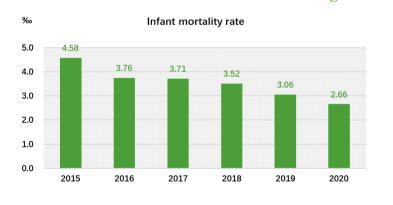
The average life expectancy of residents continues to increase



Infant and maternal health remains at high standards

Life expectancy for males: 83.67 years Life expectancy for females: 86.20 years

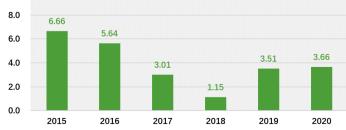
(2020)



Neonatal mortality rate:

1.67‰ (2019)

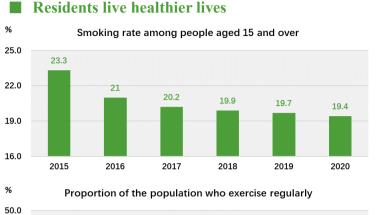
persons per Maternal mortality rate 100 thousand

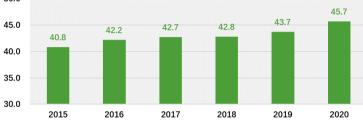


Incidence rate of critically ill pregnant women:

> 3.5‰ (2020)

10.0





Adult smoking rate down to 19.4%

The proportion of

people who exercise

regularly:

45.7%

COVID-19 vaccination progressing smoothly

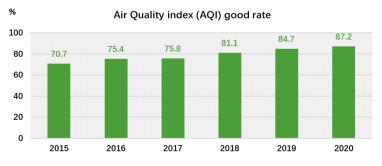
21 million people have completed vaccination, accounting for 86.53% of the permanent population (as of October 19, 2021)

Medical insurance has basically achieved full coverage

> 15.87 million employees are covered by medical insurance

3.56 million urban and rural residents covered by medical insurance

Continuous improvement of air quality



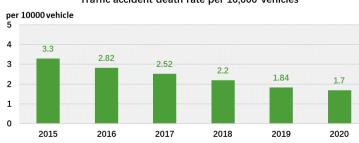
319 days or a

percentage of 87.2% with good air quality measured by air quality

index (AQI)(2020)



Traffic accident death rate per 10,000 vehicles



25

Work Overview

According to SDG3: Good Health and Well-being, Shanghai insists on putting people's health first, and calling on the whole society for active participation in the building of a healthy Shanghai where everyone is healthy. Typical tasks in Shanghai recently include: advancing high-quality coverage of medical insurance, actively carrying out prevention and control of the pandemic, comprehensively advancing the Healthy Shanghai Action Plan, implementing the clean air plan, properly pre-controlling women's pregnancy risks, vigorously promoting tobacco control in public places, and strictly implementing measures for traffic safety. These practices have improved the health security and management system of Shanghai, and also continuously enhanced people's sense of gain for health.

Main Progress

Shanghai issued the Healthy Shanghai Action Plan (2019-2030) in 2019, which follows the highest standards and includes parts such as health service system optimization, integration of health-related projects in the Yangtze River Delta, IT application for health-related projects, and internationalization of health-related projects based on 15 national action tasks. Eventually, there are 18 major special actions, 100 measures, and 177 indicators to be monitored and evaluated.

The medical insurance in Shanghai has basically achieved full coverage. In 2016, medical insurance was unified for migrant workers and employees in Shanghai. In 2017, the social insurance system for towns in Shanghai was integrated into that for employees. By the end of 2020, 15.87 million employees, and 3.56 million urban and rural residents had been covered under the medical insurance system.

The overall planning and support capacities of the medical insurance fund have been enhanced. The reimbursement ratio for outpatient services has reached 50% or above in the medical insurance for employees, and that for hospitalization reached 85% or above. The policy of maximum payment limits for hospitalization and serious illnesses has been implemented. The reimbursement ratio for outpatient services has reached 50%-80% in the medical insurance for residents, and that for hospitalization within the scope of policy reached 75%. There is no maximum payment limit for outpatient services and hospitalization.

Shanghai has achieved outstanding results in scientific and precise prevention and control of the COVID-19 pandemic. Its daily maximum nucleic acid detection capacity has reached 780,000 (per person per tube). As of August 3, 2021, a total of 38.6238 million doses had been given to 20.806 million people in the city. A total of 18.9811 million people had been fully vaccinated, accounting for 76.3% of the permanent population.

Shanghai has reached the advanced level of a developed country in terms of core indicators for maternal and child health services. The "Shanghai Maternal and Child Health Care Model" has now been popularized throughout China. In 2018, the maternal mortality rate in Shanghai was 1.15/100,000, a new low, marking Shanghai's leading role in the world in this regard. In 2019, the occurrence of Class I maternal deaths (avoidable deaths) was, for the first time, eliminated in Shanghai.

Shanghai has implemented smoking control legislation since 2010 and achieved remarkable results. The Shanghai Municipal People's Government was given the World No Tobacco Day 2017 award by the World Health Organization. By 2020, the rate had seen "seven consecutive drops" and was down to 19.4%. The rating of approval to completely ban indoor smoking among citizens reached 98.8%.

The air quality in Shanghai keeps improving. In 2020, there were 319 days or a percentage of 87.2% with good air quality according to the air quality index (AQI) in Shanghai. The average annual concentration of fine particulate matter (PM2.5) was 32 micrograms/m3, and that of sulfur dioxide (SO2), inhalable particulate matter (PM10), and nitrogen dioxide (NO2) were 6, 41, and 37 micrograms/m3, respectively, all record lows since the start of monitoring.

Specific Measures

(1) High-quality advancement of "Healthy Shanghai Action Plan"

• Adjusting measures to local conditions, focusing on characteristics of the population, and promoting the implementation of the actions

In 2019, Shanghai issued the Healthy Shanghai Action Plan (2019-2030), in which 16 municipal districts have launched the first 40 projects specific to the region based on local positioning, characteristics, and conditions. The focus has been placed on the target population and major health issues. Shanghai started to carry out the 40 key projects of the Healthy Shanghai Action Plan to facilitate its implementation on the whole.

• Popularizing health knowledge on an extensive scale and directing citizens toward a healthy lifestyle

Shanghai has promulgated the *Convention of Citizens of Shanghai on Health* and authoritative experts in public health, health promotion and other related fields were organized for the preparation of *Reader on Behaviors and Knowledge of Health for Citizens of Shanghai*, which is distributed to permanent households in the city and illustrates the health convention. Given the need for epidemic prevention and control, provisions on the use of serving chopsticks and spoons,

and social distancing are included in the Regulations of Shanghai on Public Health Emergency Management officially implemented on November 1, 2020, so as to direct residents toward a healthy lifestyle.



Figure 13 Poster of the Convention of Citizens of Shanghai on Health



Figure 14 Proposal for using serving chopsticks and spoons

• Distributing free "health gift packs" to all citizens every year

Since 2008, Shanghai has distributed books on health knowledge and practical health tools for free to more than 8 million permanent residents in the city for 13 consecutive years in line with the strategy of "wide coverage and low cost". Practical tools in the "gift pack" in recent years include salt control spoon, waist measuring tape, acupoint massager, grip ring, dumbbell, reflective seat belt, serving fork-spoon, and a panoramic health map.





2015: Reader on Knowledge of Food Safety and grip ring



2016: Reader on Knowledge of Fitness and dumbbell

一上海市民一膳食营养



2017: Reader on Knowledge of Road Safety and tools





2019: Panoramic health map of Shanghai



2020: Reader on Knowledge of Health Behaviors and serving fork-spoon

Figure 15 Main content of the "health gift pack" in recent years

Main practice of Shanghai to distribute "health gift packs"

The first is to, by means of public bidding, ensure that the gift pack is authoritative and can help popularize science. Professional publishing houses are commissioned to collect the framework and core content for the reader on health knowledge from the society through public bidding. That is, a competition mechanism is introduced for the improvement of the reader's quality. Meanwhile, derivative products of the "reader" are made, such as audiobooks, videos, and audio, so as to meet the needs of different groups of people for acquiring the information.

The second is to continuously improve channels and ensure the proper distribution of gift packs. Shanghai has constantly improved its distribution channels to ensure that health packs are delivered to every household. From 2008 to 2009, they were distributed through the postal service. Since 2010, exploration has been made to distribute it through the government network (districts and counties- towns - neighborhood committees - leaders of residential buildings). Surveys show that the delivery rate is high and it is convenient to distribute the packs to households that had previously been missed.

The third is to strengthen publicity and expand influence. Before, during, and after the distribution, Shanghai will carry out promotional activities by means of news, society, and public welfare. All districts make full use of promotional resources such as the integrated media center in their jurisdiction to increase the scope of publicity and create a good atmosphere for public opinion.

The fourth is to improve the monitoring methods and make scientific evaluation of the effect of distribution. After the distribution, the Office of the Shanghai Municipal Health Promotion Committee will commission professional organizations to make field surveys on households and carry out on-site observations on the coverage of distribution, how citizens store and use the packs, and if they are satisfied with the content, form, and distribution of the packs.

(2) Promoting high-quality coverage of medical insurance

• Constantly improving the basic medical insurance system

In 2001, a basic medical insurance system for employees was established in Shanghai. Since 2004, the burden has been reduced for insured people whose self-paid medical expenses exceed a certain percentage of their annual income. Since January 2016, the new rural cooperative medical system and the basic medical insurance system for urban residents in Shanghai have been integrated, and a unified basic medical insurance system for urban and rural residents has been established. In 2019, maternity insurance and basic medical insurance for employees will be integrated and implemented in Shanghai.

Establishing a multi-tier medical insurance security system

In July 2014, the major illness insurance system was launched for urban and rural residents in Shanghai covered by basic medical insurance, for which the burden of medical expenses has been reduced. In 2017, the pilot project was launched to enable people to buy exclusive products under the commercial medical insurance on a voluntary basis with carryover and surplus funds in individual employee's medical insurance account. In 2021, the insurance industry was instructed to launch the customized commercial insurance of Shanghai "Huhuibao" to enrich health insurance products.

Establishing a long-term care insurance system in response to the population aging

Since 2017, Shanghai has actively responded to the population aging and launched a pilot

insurance system for long-term care. The security scope covers disabled elders who live at home or in institutions in the community. The security provides basic living care and medical care services closely related to it. In terms of payment, individuals only need to bear 15% or less of the cost for home care services, community-based daycare services, and care services at nursing institutions for the aged.

(3) Carrying out COVID-19 pandemic prevention and control

• Conducting precise prevention and control, and building a full-process prevention and control system

During the period of pandemic prevention and control, Shanghai quickly established a solid and efficient decision-making and command system. A municipal leading group for pandemic prevention and control was set up with the secretary of the municipal Party committee and the mayor serving as leaders. For the same purpose, a municipal expert group for public health and clinical treatment was set up. The list of key countries (regions), and those of major concern has been adjusted in a dynamic manner by Shanghai to keep the pandemic out of China; the inspection at major traffic passes to keep the pandemic out of the city has been strengthened; community medical staff has been organized to supervise those under home quarantine in a centralized manner to keep the pandemic out of households.

• Promoting the construction of "three networks" for pandemic prevention and control

Shanghai has promoted the construction of three networks: "Infectious Disease Monitoring and Early Warning Network, Infectious Etiology Detection Network, and Infectious Disease Emergency Treatment Network". Shanghai has set up a "combat team" for emergency medical treatment to ensure public health, a "reserve team" for public health emergency response, and an epidemiological investigation team, with a daily maximum detection capacity of 780,000 (one person per test tube). Construction of new projects of the Municipal Center for Disease Control and Prevention started in December 2020. Besides, the renovation and expansion of fever clinics in six municipal general hospitals and the construction of infectious disease departments in regional medical centers in Shanghai have been initiated.

• Strengthening regional coordination and cooperation, and providing aid for other places

Shanghai has taken the initiative to clarify seven collaborative matters including patient information exchange and set up five working mechanisms including mutual recognition of health codes together with the three provinces of Jiangsu, Zhejiang, and Anhui. Also, Shanghai was first in China to set up a medical team to assist Hubei by sending 1649 medical staff in nine batches to

Wuhan and other places in the province. It achieved outstanding results with a high cure rate, low mortality rate, and zero infection among medical staff. Furthermore, Shanghai sent four experts to the Volunteer Team of Experts for Foreign Aid of Red Cross Society of China, and established a municipal-level unified coordination service platform for pandemic prevention and control for overseas projects of enterprises of the whole city.

Breakthrough in scientific research in the emergency situation to support pandemic prevention and control and public health safety

Shanghai is speeding up the progress of scientific research, so as to provide support for pandemic prevention and control with high-level scientific and technological supply, build a solid line of defense with a highefficiency public health emergency system, and embark on a path to public health safety governance as a supercity.

Shanghai has strengthened the "medical, teaching, research, and application collaboration", and encouraged universities, institutes, and technology companies to work closely with medical institutions to carry out scientific research, production, and prevention and control related applications at a quick pace in response to the urgent needs for clinical treatment, prevention and control. Focus has been placed on the fields of epidemiology, diagnostic technology, vaccines and drug research and development, and 42 international cooperation projects carried out to jointly fight the pandemic.

Shanghai, oriented on clinical application, has carried out scientific research such as "COVD-19 Infection Prevention", "Innovative Antiviral Therapy", "Organ Function Protection" and "Preventing the Transformation of Mild Cases to Severe Cases", supported the "one person, one plan" precise treatment, and reached "Experts' Consensus on COVID-19 Comprehensive Treatment" with local characteristics.

Shanghai has given play to the role of scientists, medical workers, and professional institutions for science popularization, put forward proposals and consensus on scientific protection and scientific living to the public, constantly guided citizens for personal protection, and promoted vaccination in an orderly manner.

(4) Properly pre-controlling women's pregnancy risks

• Implementing early warning and classified management of pregnant women's risks

The community health service centers distributed in each sub-district, township, and town conduct preliminary pregnancy risk screening for pregnant women in accordance with the Preliminary Screening Form for Pregnancy and Parturient Risk Assessment for early pregnancy care and makes manages abnormal situations individually. Medical institutions for midwifery practice at all levels provide classified services for maternal health care based on the assessment and classification of maternal risks for early warning.

Making dynamic assessments of pregnant women's risks during the whole process

Implementing dynamic risk assessment of pregnant and parturient women in the whole process for

early warning. Dynamic assessment and treatment will be done for all pregnant women according to the results of each examination, records, referrals, and follow-ups made, so as to keep the registration individual and managed by special personnel. The community health service center conducts postpartum risk screening during postpartum visits and provides guidance for those showing abnormalities.

Preliminary screening and assessment of pregnancy risk for a 35-year-old pregnant woman

1. Preliminary screening of pregnant and parturient women's risks

On April 2, 2020 (116/7 weeks of pregnancy), a 35-year-old pregnant woman was screened for pregnancy risk at the community health service center in accordance with the Preliminary Pregnancy and Birth Risk Screening Form for Early Warning, and tested positive (actual age \geq 35, BMI \geq 24, birth interval>5 years, a history of cesarean section). The community health service center issued a referral form considering the abnormality from initial screening and asked the patient to visit a tertiary general hospital for examination and evaluation.

2. Early warning assessment of pregnant and parturient women's risks

On April 14, 2020 (134/7 weeks of pregnancy), the pregnant woman went to a tertiary general hospital in Shanghai for the first prenatal examination in accordance with the Pregnancy and Birth Risk Assessment and Classification Form and was marked as "orange". On April 26, the dynamic assessment showed "red" after a multidisciplinary consultation, but her condition improved after in-hospital treatment. On May 22, the hospital where she was assessed made another multidisciplinary consultation to dynamically assess the risk of pregnancy. A baby boy was delivered by cesarean section on September 25, 2020 (37 weeks of pregnancy) with an Apgar rating of 10 points. The early warning assessment of risk was performed again after the delivery and before discharge. The assessment result was "red". She was discharged from the hospital after her condition stabilized and was provided guidance for follow-up visit and treatment.

3. Postpartum visits and postpartum risk screening

Three days after she was discharged from the hospital, the community health service center made the first visit, carried out the postpartum risk screening according to the Preliminary Pregnancy and Birth Risk Screening Form for Early Warning, and provided guidance on puerperium health care. There were two postpartum visits during the puerperium, and a postpartum health check was made 42 days after the delivery at the hospital where the baby was born. The mother and baby were healthy during the puerperium.

• Establishing a consultation and rescue center for critically ill pregnant women

In 2007, Shanghai established the first "Consultation and Rescue Centers for Critical Pregnant Women" with the responsibilities of each center clarified, networked management implemented, and the treatment of critically ill pregnant women alone transformed into multidisciplinary comprehensive treatment. By building a network for reporting, rescue, and transfer of critically ill pregnant and lying-in women, Shanghai's success rate of treatment and management capabilities for perinatal care have been effectively improved.

(5) Implementing a clean air plan

• Driving forward the clean air action plan step by step

Since 2013, Shanghai has implemented a clean air action plan step by step by putting forward specific comprehensive governance measures in the six areas of energy, industry, transportation, construction, agriculture, and society. At the same time, safeguard measures have been published in terms of organizing and leading, law enforcement, policy, scientific research, and citizen participation. The second round of the five-year action plan will end in 2022.

Continuously reducing the use of coal in the energy sector

The elimination of decentralized coal burning has been promoted in an all-round way, clean energy replacement has been boosted to reduce reliance on public coal-fired power plants, and the total coal consumption has fallen sharply. The upgrading and transformation of coal-fired power plants have been completed to achieve low emissions. The upgrading of 6,742 small and medium-sized oil and gas boilers has been completed.

Promoting the updating of vehicle emission standards

Since January 1, 2019, Shanghai has been able to supply gasoline and diesel for vehicles that meet the China VI standard, and has achieved compatibility of vehicle diesel, ordinary diesel, and bunker oil. In terms of urban vehicle access, China 6b stage for light-duty vehicles was implemented ahead of schedule on July 1, 2019, and China 6a emission standards were implemented in Shanghai on July 1, 2020.

• Strengthening pollution source control and supervision

Shanghai has strengthened pollution source control in multiple areas. In the field of engineering construction, the proportion of prefabricated buildings has been greatly increased. In the field of agriculture, the ban on straw burning has been fully implemented. As of 2020, the comprehensive utilization rate of straw in Shanghai had reached over 96.5%. In the field of living, pollution source control and governance for the automobile maintenance industry and large and medium-sized restaurants have been implemented. In the field of transportation, the replacement and elimination of old vehicles have been accelerated, prohibited areas delimited for high-emission non-road mobile machinery, and air pollution at ports and airports has been continuously reduced.

Shanghai comprehensively promotes the treatment of volatile organic compounds

First, a standard system has been established through legislation. The Regulations of Shanghai on the Prevention and Control of Air Pollution was officially promulgated on July 25, 2014, and came into effect on October 1, 2014. In addition, Technical Guideline of Shanghai on Industrial sector-based VOC Source Control was issued to provide technical support for VOC source control.

Second, governance is promoted through economic leverage. In July 2015, Shanghai promulgated the Operating Measures of Shanghai for Aiding Enterprises in Special Pollution Control Projects to Reduce Volatile Organic Compounds, further increased capital investment, provided special subsidies for enterprises, and encouraged enterprises to try first and reduce more.

Third, governance is strengthened through publicity and training. Since 2016, joint work has been done with the Shanghai Municipal Press and Publication Bureau and relevant industry associations for holding special lectures on policies and regulations, governance technology, and governance equipment by industry.

Fourth, a VOCs monitoring and supervision system is established. Regarding the monitoring of VOCs, the regulations on the installation of online monitors, networking, and acceptance examination of non-methane hydrocarbon in VOCs have been published and developed besides routine monitoring, and regular supervision has been strengthened.

Fifth, policies remain firm and governance deepened. In 2020, Shanghai issued the Notice of Shanghai Municipal Bureau of Ecology and Environment on the Comprehensive Treatment of Volatile Organic Compounds in Key Industries in the City, to initiate the second round of intensified management of VOCs.

(6) Strictly controlling the use of tobacco

• Constantly promoting tobacco control legislation

The Regulation on Smoking Control in Public Places of Shanghai was passed at the Shanghai Municipal People's Congress in 2009, the first local tobacco control regulation passed and promulgated by the Standing Committee of the Provincial People's Congress in Chinese Mainland after the WTO Framework Convention on Tobacco Control took effect in China. In 2010, Shanghai successfully created the first "Smoke-free Expo" in history. Since March 1, 2017, Shanghai has enforced the newly revised and stricter smoking control regulation, with a complete ban on indoor smoking.

Strengthening publicity of tobacco control in an all-round way

Shanghai has carried out media publicity in an all-round manner. Innovative forms of publicity of tobacco control such as non-smoking signs and posters, multi-channel release of tobacco control videos, slogans in landmark sites, full media coverage of tobacco control, and public welfare activity planning have been adopted, so as to downsize the scale of smoking groups from the source and create a no-smoking atmosphere in favor of the society.

Organizing smoke-free group weddings and advocating the smoke-free concept for health

Smoke-free weddings were first proposed by the Shanghai Health Promotion Center in August 2011, to advocate the smoke-free concept for health and no smoking at weddings. Since 2013, smoke-free group weddings have been held four times on every World No Tobacco Day on May 31 in Shanghai, which has been well received across the whole society.

According to the survey results, among the new couples who attended the wedding, 85% would recommend the smoke-free group wedding to others; 100% would support a total smoking ban in public places; 90% would pay more attention to smoking control after the participation; 97.5% would like to carry on the tobacco control activities; 62.5% of the newlyweds could avoid "placing cigarettes, smoking, taking cigarettes as gifts and presenting cigarettes to others at the wedding site".



Figure 16 Sandpainting on smoke-free wedding

• Building a smoke-free environment in an orderly manner

In 1994, Shanghai pioneered the creation of "smoke-free schools" and "smoke-free hospitals". In 2016, the Work Plan of Shanghai on Standardized Management of Smoke-free Units was revised and implemented in Shanghai, the lifelong system of "smoke-free units" was abolished, and the review and delisting mechanism was added. As of the end of 2020, 2,488 "Smoke-Free (Demonstration) Units of Shanghai" had been identified in the city.

• Exploring the development of standards for outdoor smoking areas

Shanghai is actively advancing the formulation of local standards for outdoor smoking areas. By investigating the situation of the smoking areas, and with environmental monitoring technology, pilot projects have been launched in places such as shopping malls, parks, government organs, and public institutions, and related work and research conducted on pre-development of regulations on outdoor smoking areas.

Building a smoking cessation service network

Shanghai has established a city-wide smoking cessation service system to provide smokers with personalized smoking cessation methods and channels. To date, 36 standardized smoking cessation clinics have been established in the city. Smokers can also enjoy related services by calling the hotline 12320 and through mutual aid groups for smoking cessation. In addition, Shanghai has provided smoking cessation support and resources such as traditional Chinese medicine, acupuncture, and psychological intervention.

(7) Promoting the prevention and control of traffic safety hazards

• Controlling the source of hidden dangers for driving groups

Shanghai has established a list of key drivers and drivers with hidden dangers by building the territorial responsibility system of the traffic police detachment, investigated and removed hidden dangers, consolidated the key information sharing mechanism, and strictly followed the health standards when filing applications for renewal of motor vehicle driver's licenses.

• Focusing on rectification of hidden dangers of key vehicles at the source

Shanghai has strictly enforced the regulations on scrapping of vehicles and investigation of illegally modified vehicles, so as to cut off hidden dangers from modified and assembled vehicles on the roads. Besides, in response to the illegal behaviors of large passenger cars that could lead to accidents, such as "passengers not wearing seat belts" and counterfeiting of licenses, special tasks for rectification have been carried out.

• Strengthening the investigation and management of hidden dangers on the road

Highway traffic police personnel have been organized to deal with road sections that are susceptible to weather conditions, and to improve the joint emergency of Shanghai. "Special rectification of traffic order around schools ", "special rectification of parking and giving way signs and conflicts of signal lights", "safety prevention and control facilities in construction areas" and other problems have been rectified by taking into consideration the spots with a high occurrence of accidents and disasters in Shanghai. For intersections and road sections with traffic congestion in Shanghai, measures such as changing bus lines through coordination and installing reminder screens in waiting areas have been adopted.

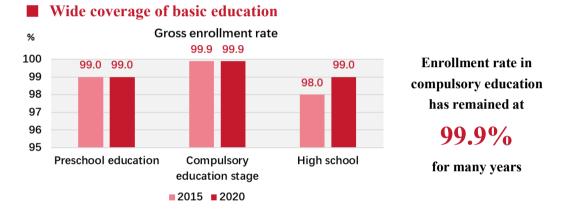
SDG4 Quality Education

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

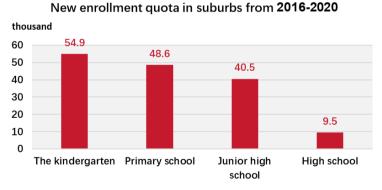
Key indicators

QUALITY Education

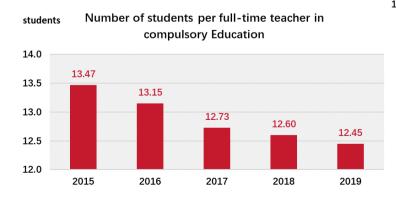
4



Equal allocation of educational resources among regions



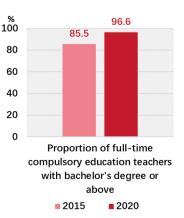
High-quality supply of teachers

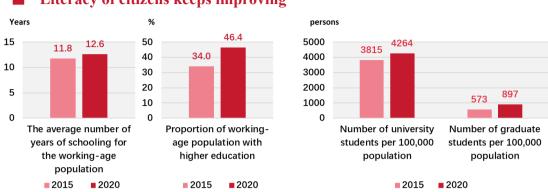


From 2016 to 2020, there were 564 planned basic education projects in the

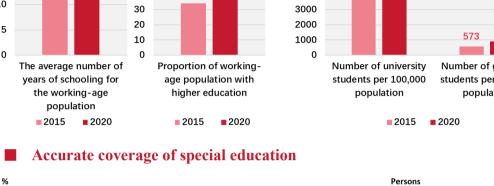


were located in the suburbs



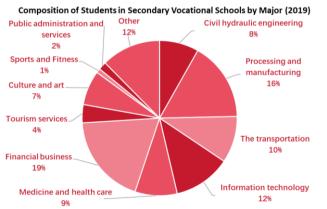


Literacy of citizens keeps improving





Industry-Education Integration for Vocational Education

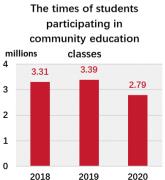


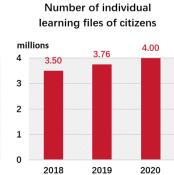
Lifelong education network coverage

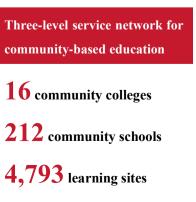
The proportion of professional teachers in vocational colleges with both theoretical and practical teaching abilities reach

60.97%

116 enterprises based on industry and education integration successfully built







Work Overview

As a representative of learning-oriented cities across the world, Shanghai has always been committed to providing citizens with inclusive, high-quality, lifelong education resources. According to SDG4: Quality Education, Shanghai has given more attention and input to education in recent years. It has also made nationwide innovation and breakthroughs in the advancement of compulsory education, childcare services, lifelong education, vocational education, and special education, so as to further promote equity in education, expand the supply of high-quality educational resources, and create a good learning atmosphere and cultural atmosphere for citizens.

Main Progress

The gap between urban and rural areas in Shanghai in compulsory education has been narrowed, and remarkable results have been achieved in equal access to education. According to the results of the seventh round of international student assessment (PISA 2018) published by the World Economic Cooperation and Development Organization (OECD), four provinces and cities including Shanghai ranked first in the three categories of reading, mathematics, and scientific literacy. In recent years, the academic performance of primary and junior high school students has been good on the whole, and the differences in academic performance between urban and rural areas and between schools have shown a narrowing trend according to the green indicators for primary and secondary schools in Shanghai.

A pattern of childcare services based on inclusiveness, with the integration of nursery and childcare as the main component, and featuring diversified participation has taken shape in Shanghai. In August 2020, Shanghai took the lead in China in printing and distributing a three-year action plan for childcare services. In 2020, 53 inclusive childcare centers were established in Shanghai, so as to further increase the supply of childcare service resources and optimize the layout.

The vocational skill training in Shanghai has achieved high-quality development and a good atmosphere for skill competition has been formed. There are currently 9 national-level World Skills Competition training bases in Shanghai and 62 city-level World Skills Competition player training bases. The number of vocational colleges accounts for more than 80% of the total, and 35 students have been admitted to the National Training Team for the 46th World Skills Competition, accounting for 57.4% of the total. In 2022, Shanghai will host the 46th World Skills Competition.

The supply of special education resources in Shanghai has increased significantly. There are 190 registered preschool special education (classes) sites in the city, an increase of 160 since 2017. There are 25 primary and secondary schools in the city that offer special education in the compulsory education stage, an increase of 10 since 2017. In the academic year of 2020, there

were 952 full-time special education teachers in ordinary schools (kindergartens), an increase of 664 since 2017. In the academic year of 2020, the enrollment rate of disabled students in the compulsory education stage in the city reached 99.8%, and that of disabled students in high schools reached 70.5%.

Shanghai has established a three-level community education network covering all of its towns and village committees. About 3 million citizens have attended community-based courses, and nearly 10,000 learning teams composed of citizens are active in various communities in the city every year. For young white-collar employees, migrant workers, grassroots employees, and agricultural talents in rural areas, a number of iconic training activities have been carried out in Shanghai to ensure everyone's right to lifelong learning. In July 2012, Shanghai established China's first provincial-level lifelong education credit bank.

Specific Measures

(1) Promoting equal allocation of compulsory education resources

• Implementing the "Five Standards" for school running in the compulsory education stage unified in urban and rural areas

Since 2015, Shanghai has implemented five standards concerning the construction of public schools in the compulsory education stage unified in urban and rural areas, equipment, IT application, teachers and income, and expenses per student, respectively. By the end of 2020, 414 sets of " student theaters, indoor gymnasiums, and indoor swimming pools " had been built, 3511 facilities had been reconstructed and configured, 1,119 schools in the compulsory education stage had been covered by wireless networks, and the penetration rate of multimedia classrooms reached more than 95% in Shanghai, with at least one senior teacher for each elementary school and at least 5% of senior teachers for each junior high school.

• Strengthening the supply of basic education resources and physical construction in suburbs

Shanghai has given priority to the suburbs for laying out basic education resources. In the years from 2016 to 2020, there were 54,900, 48,600, 40,500, and 9,500 new places built, respectively. These include the building of new kindergartens, elementary schools, junior high schools, and senior high schools in the suburbs, which effectively satisfied the demand for admission caused by population mobility and guaranteed the rights of children and adolescents of school age to the nearest school.

• Running schools based in school districts organized by groups and narrowing the gap between schools

In 2015, Shanghai promulgated policies to promote high-quality and balanced development and operation of schools based in school districts and run by groups. There were 238 schools based in school districts and run by groups in the city, covering about 80% of compulsory education schools. In 2019, implementation opinions of Shanghai to promote the construction of school districts and groups in a compact way were issued. In April 2021, a special training session on the establishment of school districts and groups in a compact way was held in Shanghai as guidance on the development of a plan for building for each district, school district, and group.



Figure 17 Map of schools based in school districts and run by groups in Shanghai

• Implementing the project of improvibg the quality of public junior high schools and utilizing high-quality educational resources

Shanghai has implemented the project of enhancing the quality of public junior high schools, and made efforts to turn 128 experimental schools into "good local junior high schools ". Five experimental schools have been turned into high-quality educational resources through resource integration, and the other 123 basically reached the mid-term construction goals, 25% better than expected.

Promoting the flow of high-quality teachers and improving the level of weak schools

Shanghai has promoted the flow of special-grade principals and teachers to the countryside. A total of 53 special-grade principals, 80 special-grade teachers, and 18 full-time senior teachers

have been sent to suburban schools since 2013, contributing to the development of teachers in suburban schools at a high starting point. In 2021, the *Guiding Opinions on Strengthening the Construction of the Personnel Management System for Primary and Secondary School Teachers in Shanghai* was issued to promote the integrated and equal allocation of high-quality teachers.

(2) Promoting the development of childcare services

• Increasing the supply of childcare resources and professional support for home childcare

Shanghai has effectively increased the supply of inclusive childcare resources with such measures as building integrated childcare centers, launching 50 practical projects at inclusive childcare centers every year, and encouraging multiple entities such as enterprises and institutions to develop childcare services. It has provided professional support for home childcare by building child-friendly communities, early childhood development centers, scientific parenting guidance stations that serve neighboring sub-districts and towns, and a 15-minute community-based nursery service circle.

Practical project of "50 new inclusive childcare centers"

Since 2019, Shanghai has implemented the municipal government's practical project of "50 new inclusive childcare centers" for three consecutive years. Nursery and kindergarten services have been integrated, inclusive nursery classes set up at private and public kindergartens, and childcare services provided for families with infants under 3 years old, especially 2-3 years old. From 2019 to 2020, there were 109 new inclusive childcare centers (100 integrated childcare centers) and 155 new nursery classes, and over 3,000 additional places, a remarkable achievement.

According to the requirements of the Three-year Action Plan, Shanghai will continue with the practical projects in 2021 and 2022. In 2021, 56 sites were created. As of the end of July, the construction of 26 inclusive childcare centers had been completed, all of which were completed by the end of September, and the registration for childcare services was opened. By the end of 2022, the integrated childcare centers will account for no less than 50% of all public and private kindergartens, and the total number will be approximately 62,000 by 2025, so as to meet the needs of families for taking care of children of school age.

Improving nursery service supervision and emergency response mechanisms

Shanghai has upgraded its information management platform for childcare services for kids under 3 years old to realize effective supervision and regular monitoring with technical support. It has developed the *Guidelines for the Daily Management of Nursery Service Institutions in Shanghai* and the *Regulations for the Management of Nursery Service Employees in Shanghai*, and established a complete risk warning and emergency response mechanism for nursery institutions.

• Strengthening the qualification review and training of employees at nursery schools

Shanghai has studied and formulated qualification access standards and codes of conduct for personnel in nursery education, and established a qualification review and process assessment mechanisms for related employees. Pilot programs have been launched for setting up childcare service - related disciplines (majors) in qualified institutions of higher learning and vocational colleges, and has cooperated with industry associations to establish a classified development system for people in childcare services, so as to provide various public-benefit scientific childcare resources for families with infants.

• Deepening the integration of education, nursing, and medicine, and improving the quality and international level of childcare services

Shanghai has achieved full coverage in distributing the Shanghai Maternal and Child Health Handbook for permanent families with infants and young children, and given publicity and guidance with the theme of "A Tour of Communities for Healthy Families - Sound Child Rearing". Pilot projects that integrate education, nursing, and medicine have been carried out and guidance has been provided. Online and offline scientific parenting guidance activities for public welfare will be held regularly. International exchanges and cooperation in childcare services have been expanded by holding international exchange forums and organizing special training courses.

(3) High-quality development of vocational education

• Creating brand activities for occupational experience and promoting integrated development of vocational and general education

Since 2014, Shanghai has taken the lead in China in organizing occupational experience days and building the namesake brand, so as to enable more primary and middle school students to learn about vocational education, experience the fun of work, cultivate career awareness, and establish professional ideals. In 2021, 62 vocational schools in Shanghai provided 66 online and 271 offline vocational experience projects. Nearly 60,000 students in the city got involved, thereby effectively promoting the integrated development of vocational education and general education.

• Creating a team of high-quality "double-qualified" vocational education teachers

Shanghai has strictly implemented the system of sending teachers of vocational colleges to enterprises for practice. In 2020, a total of 292 teachers from 62 schools were sent to visit enterprises. Moreover, a total of 19 vocational education and vocational training enterprise practice bases for teachers have been identified, a number of activities for exchanges among vocational schools have been held, and the work of 42 famous teacher studios and 30 skilled master studios has been facilitated in Shanghai.

• Building an enterprise that integrates production and education, and exploring and promoting the pilot programs for modern apprenticeships

Shanghai has focused on the core pilot zone for industry-education integration in the Lin-gang Special Area, promoted the application of major projects for industry-education integration signed with undergraduate and higher vocational colleges, and successfully built 116 industry-education integration enterprises in the city. Shanghai has explored and promoted the construction of pilot projects for modern apprenticeships. There are currently 32 secondary vocational schools piloting the modern apprenticeship system, and 5 secondary vocational schools and 8 higher vocational colleges established as pilot schools for modern apprenticeship by the Ministry of Education.

• Building an integrated and coordinated development platform for vocational education in the Yangtze River Delta

Shanghai has actively implemented the policy for the joint running of schools between Jiashan and Wujiang in the Yangtze River Delta Demonstration Zone, recruited students for vocational colleges from other provinces and cities, and expanded the scope of professional awards. It has initiated integrated training for secondary and higher vocational education, so as to improve the quality of integrated talent training. It has organized secondary vocational teachers from the three provinces and cities of the Yangtze River Delta for teacher-enterprise practice in Shanghai, so as to jointly build and share vocational education resources in the demonstration zone.

Practice and exploration of the integrated development of vocational education in the Yangtze River Delta

The Shanghai Municipal Education Commission attaches great importance to the integrated construction of vocational education in the Yangtze River Delta Demonstration Zone, and has actively implemented the Plan for the Construction of an Integrated Vocational Education Platform in the Yangtze River Delta Integrated Ecological and Green Development Demonstration Zone and other documents, to promote the integrated development of vocational education in the Yangtze River Delta Demonstration Zone.

Qingpu District is located in the Yangtze River Delta Integrated Ecological and Green Development Demonstration Zone, and its vocational education has been included in the integrated construction of the demonstration zone. The three secondary vocational schools of Shanghai Industrial and Commercial Information School, Shanghai Qingpu District Vocational School, and Shanghai Real Estate School in the demonstration zone have worked together with relevant schools in Wujiang City of Jiangsu Province and Jiashan City of Zhejiang Province to carry out cross-regional recruitment, talent training, production and education integration, and resource co-construction and sharing in the Yangtze River Delta Demonstration Zone.

At present, joint construction and sharing of high-quality resources in the demonstration zone have been realized relying on platforms such as the Industry-Education Integration Alliance in the Yangtze River Delta Demonstration Zone, which has improved the efficiency of the use of high-quality vocational education resources in the demonstration zone. Leaders and representatives of vocational teachers from 3 vocational

schools related to tourism services in three areas of the demonstration zone, and industry experts from 8 school-enterprise cooperation bases have constituted a coordination team for integration of vocational education and production and tourism services in the Yangtze River Delta Integrated Ecological and Green Development Demonstration Zone, and started the construction of curricula with regional characteristics.

(4) Accurate coverage of special education

• Promoting the coordinated development of the special education system in each phase of studying

In terms of pre-school education, Shanghai has strengthened the layout and achieved full coverage of pre-school special education sites in sub-districts and towns. In terms of compulsory education, each district has made plans based on its actual situation and set up special education classes at general schools for compulsory education. A total of 25 primary and secondary schools in the city offer special education classes in the compulsory education stage, which further guarantees that moderately to severely disabled students can receive compulsory education at the nearest school. In terms of high school education, while special high schools for children with sight and hearing disabilities have been properly operated, all districts have consolidated special education classes at secondary vocational schools and provided vocational education services for students with disabilities.

• Promoting the combination of medical rehabilitation and education

All districts in Shanghai have strengthened cooperation between schools and medical institutions by promoting the signing of cooperation agreements with relevant medical rehabilitation institutions, so as to achieve full coverage of integrated medical and educational services. China's first special education evaluation center has been established in Shanghai, and the mechanism of evaluating special students enrolling in kindergartens has improved in a more scientific nature. Electronic files that include information on education, health care, and rehabilitation for all special students from pre-school to high school stages have been kept, and more details added to the "one file for one student" in Shanghai.

Shanghai Special Student Education Evaluation Center

The Shanghai Special Student Education Evaluation Center, the first of its kind in China, was established at Pudong Special Education School. It is a special education evaluation service and coordination organization engaged in evaluation, guidance, and research.

Since its establishment in 2016, the evaluation center has established a team of experts in medicine and education for special schools (and kindergartens) at different levels and in different types and special students (children) at ordinary primary and secondary schools (kindergartens) in the city. It has actively carried out 5 major kinds of evaluation and served 3,104 students in total (data as of 2020). The five kinds include evaluation of special children upon entry into and settlement at schools (kindergartens) in Shanghai;

evaluation of convenience of disabled students in unified examination in Shanghai; evaluation of convenience of graduates from junior high schools in special education in the unified final examination in Shanghai, evaluation of transfer of disabled students from general secondary vocational schools to secondary vocational schools (classes) in special education, and evaluation of special needs of disabled students in Shanghai.

The evaluation center has provided demonstration guidance and interpreted training tools for grassroots schools in all districts of the city, standardized the evaluation process for grassroots schools, and helped improve teachers' comprehensive evaluation capabilities. The center has also established a research group for the Study on the Construction and Implementation of the Comprehensive Ability Evaluation System for Students at Schools for the Mentally Retarded in Shanghai. It aims to explore the evaluation system for mentally handicapped students.

• Promoting inclusive education

Shanghai has given full play to the role of the district-level special education guidance center to ensure that each school can receive professional guidance once a month on average. The teachers, such as full-time teachers in special education and touring instructors, have been better equipped and resource classrooms have been built in Shanghai. Schools can strengthen the overall design of general courses and special courses based on the results of student evaluations and individual education plans. Ten schools in the city have been involved in the overall planning for, and research on, the curricula for regular classes, for further optimization in a progressive way.



Figure 18 Construction of resource classrooms at ordinary schools

• Increasing capital investment and optimizing the conditions for running schools in special education

Shanghai has ensured sufficient allocation of budgets as public expenses for students entitled to special education. For special education schools with a small number of students, the policy of minimum public expenses per student has been adopted. In the past three years, 66 dedicated classrooms have been upgraded and renovated, and the renovation of libraries all reach the standard for special education schools. In addition, Shanghai has instructed various districts to build a barrier-free campus environment in line with a proper plan.

(5) Building a community-based education network

• Building a three-level service network for community education to promote the integration of social resources and lifelong education

Shanghai has established a three-level service network for community-based education that integrates "16 district-level community colleges + 212 community schools in sub-districts, towns, and townships + 4,793 learning points at village committees", with over 3 million residents present each year. Based on the improved three-level school-running network, the integration of social resources and lifelong education has been promoted, and priority has been given to the construction of learning sites for demonstration, for the combination of rearing and education, and for social education at village committees in Shanghai.

• Releasing of the Shanghai Community Action Plan on Education for Sustainable Development

Shanghai has worked with the UNESCO Institute for Lifelong Learning (UIL) and Hamburg, Germany, in launching the Shanghai Sustainable Development Education Project. In September 2020, it released the Shanghai Community Action Plan on Education for Sustainable Development (2020-2021). The action plan focuses on communities, especially education for communities, and clarifies four priority areas: community health, environmental protection, social harmony, and professional competence.

Shanghai Sustainable Development Education Project

With the assistance of UNESCO, Shanghai joined the Global Network of Learning Cities (GNLC) in July 2019. Shanghai, a representative of Asian cities, participated in the drafting of the Medelin Manifesto, and was appointed as a city for the coordination of "Education for Sustainable Development" (ESD) by UNESCO along with Hamburg of Germany and Espoo of Finland at the Fourth International Conference on Learning Cities in October 2019, for integrating and promoting the practice of and research on sustainable development education in more than 100 cities around the world. Since 2020, the project team has attended the meetings on coordination organized by the UNESCO Institute for Lifelong Learning, held meetings on

sustainable development education promotion, carried out case studies and comparative studies on sustainable development education, and formulated and completed the Shanghai Community Action Plan on Education for Sustainable Development (2020-2021), which was officially released on the website of the UNESCO Institute for Lifelong Learning in September 2020.

UNESCO Institute for Lifelong Learning				
THE INSTITUTE	PROGRAMMES	PARTNERSHIPS	RESOURCES	CONTACT US
Home $_2$ Lifelong Learning $_2$ Shanghai launches an Education for Sustainable Development (ESD) action plan $_2$				

Shanghai launches an Education for Sustainable Development (ESD) action plan

Figure 19 Release of the Shanghai Community Action Plan on Education for Sustainable Development on the website of UNESCO

• Establishing a community-based teacher pool and improving the teacher training system

Shanghai has formed a community-based education team of more than 1,670 full-time teachers, over 5,000 part-time teachers, and more than 50,000 student volunteers, and organized a community-oriented education volunteer group of nearly 100 experts. It has brought together 236 community-based education teachers and researchers from 16 district-level community colleges, created the first 15 city-level extension courses, and established more than 40 teaching exemplars.

• Building a digital learning platform and strengthening the distribution of lifelong education resources

Shanghai provides high-quality and abundant online learning services for the general public via shlll.net. Up to now, it has obtained 290 million hits, and offers nearly 40,000 online courses. The first all-media learning platform for citizens (the elderly) in China - "Golden Classroom" has been created in Shanghai, with over 1 million views every day. Besides, thanks to the lifelong education resource distribution system in Shanghai featuring "online and offline interconnection", the first of its kind in China, accurate distribution of community education resources can be achieved.



Figure 20 Diverse types of community education resources

• Establishing a community education volunteer service team and launching experience base projects

Shanghai has established a community education volunteer service team, with nearly 50,000 volunteers. Since 2013, Shanghai has pioneered the project of building lifelong learning experience bases for citizens in China. It has now established 10 lifelong learning experience bases for citizens, 145 experience sites, and 1,271 experience projects, which draw 1.5 million citizens each year.

(6) Establishing a lifelong education credit bank

Establishing a lifelong education credit banking system

The lifelong education credit bank has been established in Shanghai. It is operated by the Shanghai Open University and serves citizens for lifelong education. The credit bank has 19 branches covering all districts of Shanghai, which form a service system for accumulated lifelong learning achievements for citizens.

• Establishing a credit bank college network system covering all colleges and universities of continuing education across the city

College-based outlets of the credit bank provide credit banking services for students. They can open an account and have their credit recognized and converted. The credit bank also provides relevant consulting and publicity. The credit bank has 68 college-based outlets, covering all colleges and universities of continuing education in the city, and resorting to a mechanism of credit conversion between academic education, and between academic education and nonacademic education.

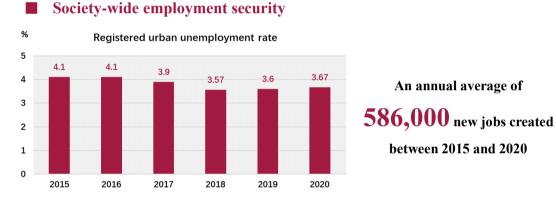
• Establishing 16 sets of credit conversion standards and expanding credit banking services and functions

Shanghai has organized experts in academic education throughout the city for the establishment of 16 sets of credit conversion standards for academic education in accordance with the different curricula, teaching content, and teaching requirements at various colleges and universities. As of July 30, 2021, Shanghai Lifelong Education Credit Bank had seen 4.3 million learners with personal learning accounts established, more than 85 million pieces of learning achievements, and over 100,000 people with 780,000 credits converted.

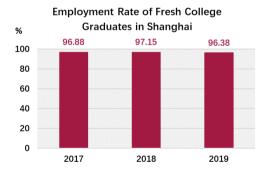
SDG8 Decent Work and Economic Growth

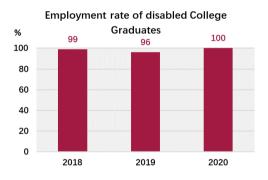
8 DECENT WORK AND ECONOMIC GROWTH Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for al

Key indicator



Employment of college graduates

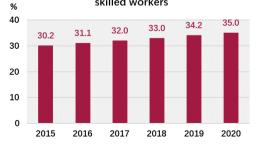


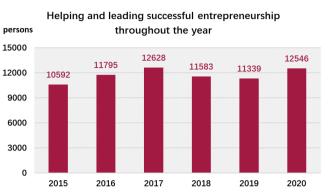


Vocational training and high-end talent

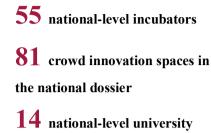


Proportion of highly skilled personnel in skilled workers



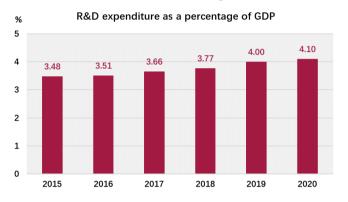


Entrepreneurship support

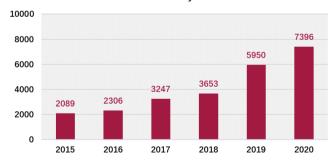


science parks

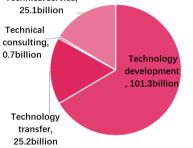
Innovation-driven development



Newly recognized high-tech enterprises (enterprises) within the year

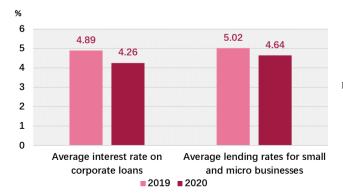


Value of Technology Contracts by Category (2019)(RMB Yuan) Technical service,



More than 400 centers for engineering technology research at the national and municipal levels

Around **200** key laboratories at the national and municipal levels



Financial support for enterprise development

By the end of 2020, financial institutions in Shanghai had reduced the principal and interest

on 2,216 enterprises hit hard by COVID-19.

Work Overview

The objective of SDG8 is to provide everyone with economic support and help them to do work excellent work. Despite a challenging economic situation, Shanghai recently successfully implemented some key measures to ensure enterprise development and employment with financial support, promote the development of small and micro enterprises, encourage innovation and entrepreneurship, provide career guidance and technical training, generate employment for youths, and ensure employment for the disabled and gender equality in employment.

Main Progress

Shanghai has established an individual-oriented career guidance system. In November 2019, the all-in-one "Individual Career Guidance Appointment" went online, providing 6,621 career guidance opportunities for 7,404 individuals seeking career guidance. So far, 1,899 people have made an appointment, of which 1,632 have already been given career guidance.

Shanghai's career services and technical training are becoming more and more diversified, including cloud classrooms, video interviews, and vocational assessments. Between 2016 and 2020, Shanghai provided subsidized vocational technical training for 5.223 million people and issued 1.401 million skill-assessment certificates.

The employment rate of Shanghai's fresh college graduates has remained at a stable level of over 95%. The starting salary of Shanghai's fresh college graduates in their first jobs has continued to rise, reaching 7,102 yuan/month in 2019. The policy of employment support for disabled college students has had a notable effect; these students are employed at a rate higher than overall level.

The financing cost of Shanghai enterprises continues to decrease. At the end of 2020, the average interest rate of corporate loans in Shanghai was 4.26%, a year-on-year decrease of 63 base points; the average interest rate of loans to small and micro enterprises was 4.64%, a year-on-year decrease of 38 base points. 215 enterprises are listed on the science and technology innovation board of the Shanghai Stock Exchange. Out of these, 37 are based in Shanghai, ranking second in China. The science and technology innovation board of the Shanghai Stock Exchange has raised 305 billion yuan in capital, and Shanghai enterprises have raised 109.9 billion yuan, ranking first in the country. In 2020, Shanghai ensured enterprise development and employment with financial support and granted enterprises 20.45 billion yuan of loans to the benefit of over 15, 000 business entities. It also offered 39,000 rediscounts, adding up to 88.17 billion yuan.

Shanghai has built an innovation and entrepreneurship carrier cultivation system including science and technology business incubators, maker spaces, university science, and technology parks. By 2020, Shanghai had built 55 state-level incubators, 81 maker spaces included in the national dossier, and 14 national university science and technology parks. The business incubation service chain of "nursery, incubation, acceleration, and industrialization" has taken shape, producing an agglomeration effect in Zhangjiang, Wujiaochang in Yangpu, and "Dalinghaowan" in Minhang.

Shanghai's system for the transfer of scientific and technological innovations is improving. The Shanghai Action Plan for Promoting the Transfer and Transformation of Scientific and Technological Achievements (2021-2023) has been formulated to build a system for technology transfer and transformation in colleges and universities and scientific research institutes and to improve the management and transformation of scientific and technological achievements. On October 28, 2020, Shanghai Technology Transfer & Exchange opened at the opening ceremony of the 2020 Global Technology Transfer Conference.

Shanghai women are increasingly active in entrepreneurial activities, while employment equality is continuously consolidated. Focusing on innovation and entrepreneurship, Shanghai has carried out various entrepreneurship activities for women and created a social atmosphere conducive to women's entrepreneurship. According to surveys conducted on the entrepreneurship of Shanghai residents in 2018 and 2019, the rate of young entrepreneurs reached 12.8% and 11.9%, of which women accounted for nearly 40%.

Specific Measures

(1) Improving the career guidance service system

• Launching the all-in-one "Individual Career Guidance Appointment" service

In November 2019, Shanghai launched the all-in-one "Individual Career Guidance Appointment" service for job seekers seeking career guidance, released district vocational guidance services in real - time, provided advisory services, and enhanced its one-on-one career guidance efficiency. The service became the main channel for job seekers to seek professional guidance.

The "Individual Career Guidance Appointment" service

In November 2019, Shanghai launched the all-in-one "Individual Career Guidance Appointment" service for job seekers seeking career guidance. The "Shanghai Renshe" app releases the number of career guidance opportunities to be provided in each district in real-time so that people seeking career advice could be served in a convenient way.

From November 2019 to July 2020, Shanghai made available 2,544 reserved guidance sessions (each session lasting for one hour) for 2,764 people, out of which 679 people reserved a spot, with an appointment rate of 24.6%. Among them, 83 people did not show up to their appointments, and in the end, 586 guiding sessions were provided for 543 people. According to the number of people who show up to their appointments, the appointment completion rate reached 86.3%. After the first guidance session, more than

80 people went on to receive 2-4 in-depth guidance sessions.

At the initial stage of the platform launch (from November 2019 to February 2020), the number of people who received special guidance through personal appointments accounted for about 11% of the total number of people who received special guidance through various channels in the city. Since March, thanks to downward publicity and with the further recovery of the demand for guidance after the stabilization of the epidemic situation, the proportion of people who received special guidance through personal appointment channels increased to 35%.

• Building the Shanghai Employment Service Expert Volunteer Group

In 2016, the Shanghai Employment Service Expert Volunteer Group was formed, gathering people from all walks of life concerned about public employment services. Currently, the group consists of more than 380 expert volunteers. The experts provide employment services in the form of expert consultation, expert lectures, work seminars, paired assistance, and other activities.

• Spreading career guidance information

Shanghai has released career guidance information resources through multiple measures and provided job seekers with all kinds of popular recruitment information and competitive positions through the media for a long time; through the official platform "12333 online", online career guidance services are carried out twice a month; two special vocational guidance lectures are given regularly, and professional vocational guidance lectures are delivered in communities, colleges , and universities, parks, etc.

(2) Encouraging innovation and entrepreneurship

• Creating an innovation and entrepreneurship support chain

Shanghai strives to build an innovation and entrepreneurship support chain covering the whole entrepreneurship process and the whole life cycle of enterprises, including financing support, site support, tax reduction, capacity improvement, and service carrier construction. It has constructed an entrepreneur ability improvement system combining "ability evaluation + entrepreneurship training + entrepreneurship Internship". It subsidies entrepreneurship training and draws on the employment internship model to launch entrepreneurship internships.

Start-up loan guarantee

To help entrepreneurs overcome financing difficulties, Shanghai has implemented the policy of venture loan guarantee and discount interest ever since 2000. In recent years, it has continuously adjusted and improved the policies and measures for start-up guarantee loans. Shanghai has introduced three types of entrepreneurship guarantee loan policies for different entrepreneurial groups, and gradually increased the support of entrepreneurship guarantee loan policies. The main methods are as follows:

1. Improve the loan policy. In view of the problems existing in the work with start-up loans, Shanghai carefully evaluates the situation, constantly improves the loan policy documents, and expands the policy coverage.

2. Adjust and optimize the handling process. The business modules of "Venture Guaranteed Loan Interest Subsidy" and "Venture Guaranteed Loan Application" were successively launched on the "all-in-one" platform, improving the applicants' financing convenience and sense of policy acquisition.

3. Expand the channels for loan business. Shanghai cooperates with banks, and the handling model has evolved from the "one bank and one outlet" model into the "multiple banks and multiple outlets" model to improve work efficiency and promote benign competition among handling banks.

4. Develop special loan products. Shanghai combines entrepreneurship competitions with its work on entrepreneurship guaranteed loans. It active supports employment on online platforms. It has launched a "special car loan" business guarantee loan product for full-time drivers on online car-hailing platforms.

• Building entrepreneurship service platforms

Shanghai has built the China (Shanghai) Entrepreneurs Public Training Base, which covers an area of 110, 000 square meters, to provide services such as entrepreneurship training, product experimental trial production, and entrepreneurship nursery incubation. It carries out the identification of municipal entrepreneurship incubation demonstration bases and gives an operation fee subsidy of up to 500, 000 yuan per year according to incubation evaluation. It has built a college entrepreneurship guidance station to provide one-stop services for college student entrepreneurs and give financial subsidies to the guidance station.

• Creating a positive entrepreneurial atmosphere

By holding innovation and entrepreneurship competitions, Shanghai rewards excellent entrepreneurial teams or organizations and supports all districts to promote the creation of entrepreneurial communities and create a positive entrepreneurial atmosphere within the communities, and actively operates the entrepreneurial new media platform, continuously extending its influence. More than 100 theme activities are held every year, covering more than 60 universities, 300 entrepreneurship incubation bases, and 200 communities, with nearly 80,000 entrepreneurs participating.

• Promoting the construction of scientific and technological innovation cooperation networks

Shanghai actively promotes the construction of the Yangtze River Delta Regional Innovation Community, implements the joint research mechanism of the Yangtze River Delta Ecological Green Integrated Development Demonstration Zone, and accelerates the construction of the Yangtze River Delta Science and Technology Resource Sharing Service Platform. Shanghai actively promotes scientific and technological cooperation between Shanghai and Hong Kong, and Shanghai and Taiwan, while also promoting the building the "scientific and technological innovation service platform for Taiwan funded enterprises", holding the "Youth Entrepreneurship Competition on Both Sides of the Shanghai Strait", and promotes the exchange of innovation and entrepreneurship projects on both sides of the Taiwan Strait. Shanghai is actively expanding its international scientific and technological cooperation network; it has signed intergovernmental international scientific and technological cooperation agreements with more than 20 countries and regions such as the State Science and Technology Commission of Belarus. In the past four years, Shanghai has supported about 180 young scientists from Belt and Road countries to engage in scientific research and established 22 international joint laboratories.

(3) Promoting youth employment

• Tracking youth employment in real-time

According to the specific situation of long-term unemployed youths, Shanghai has formulated a practical "employment plan" for each youth and arranged special personnel to supervise the implementation of the plan. For young people preparing for market-oriented employment, Shanghai helps them realize market-oriented employment; it gives clear suggestions on skills training projects and employment internships for young people preparing to participate in training internships; Shanghai also works together with young people with entrepreneurial aspirations, assisting them in their studies and formulation of entrepreneurial plans and actively implements follow-up entrepreneurial support services.

• Tapping into recruitment resources and improving employment matching rate

Shanghai reaches out to recruiters to understand their recruitment needs, taps into the recruitment position resources in line with the characteristics of youth job hunting, and broadens the channels for releasing recruitment information. According to the characteristics of youth groups, Shanghai organizes and carries out recruitment activities integrating various service forms such as visiting enterprises, interview guidance, and special recruitment. All districts have generally established a special youth recruitment system and have held at least one activity every month to realize normal operation.

Strengthening career guidance, guiding young people to actively seek employment

Each district organizes and establishes a team of "Navigation Mentors" to publicize the employment policy and employment situation to young people, so as to help young people understand the current supply and demand of the human resource market. By carrying out professional quality evaluations, Shanghai helps young people determine the direction of job hunting. Further, by organizing pre-service training, job search simulation training, and other

activities, Shanghai helps young people improve their job-hunting ability.

(4) Ensuring employment security for the disabled

• Creating a sunshine vocational rehabilitation assistance base network

Shanghai started to promote the establishment of "a sunshine vocational rehabilitation assistance base" in 2010 and has formed a network covering the whole city. It aims to provide moderately disabled people with a certain amount of labor income and rehabilitative care in the form of part-time and diversified employment. The "sunshine base" has enhanced the labor skills and labor capacity of the aid receivers through various forms of employment training.

Pudong New Area sunshine vocational rehabilitation assistance base for the disabled

In 2009, the Pudong New Area Disabled Persons' Federation established "Pudong New Area Sunshine Vocational Rehabilitation Assistance Base for Disabled Persons" (Pudong Base), a "job hunting center" for disabled people that brings together labor practice, skill training, vocational counseling, and psychological rehabilitation. It is specially responsible for all kinds of people with employment aspirations and a pre-employment training base for disabled people of employment age (aid receivers) to receive training before they get recommendations for suitable jobs. The Pudong base expands the employment channels of the disabled and improves the employment level of the disabled every year according to the actual situation such as market-oriented demand. Relying on the Pudong base, the Pudong Disabled Persons' Federation has done a good job in stabilizing and ensuring employment for the disabled and promoted the relative balance between supply and demand in the employment market for the disabled in the new area, the steady improvement of employment quality, and the steady growth of income level.



Figure 21 Silent Barista

• Matching the supply and demand of jobs for the disabled

Shanghai guides enterprises to create jobs that are suitable for disabled people, releases recruitment-related information via Internet, WeChat groups, district disability affairs acceptance centers, and other channels, and establishes a normalized working mechanism to promote the employment of the disabled. Relying on the "Shanghai Disabled Employment and Vocational

Training Information Management System" and the "National Disabled Work Service Portal System", Shanghai strengthens coordination at the district level to match the supply and demand of jobs for the disabled.

• Enhancing employment support for disabled college students

Shanghai integrates the resources of universities and social enterprises to provide individualized employment consultation and guidance, career planning training, soft skills improvement, and other services for disabled college graduates. Shanghai works to improve the filing of disabled college students individually and improve the level of personalized service. It accurately matches the supply and demand of disabled college graduates and recruitment enterprises, builds an employment platform for disabled college graduates, and holds online and offline job fairs.

(5) Encouraging women employment and entrepreneurship

• Protecting women's equal rights and interests in employment

Shanghai has made a breakthrough in the equality of women's employment rights and interests through legislative protection and other means. For the employment link, Shanghai guides enterprises to standardize employment management, and perform various obligations such as labor remuneration, social insurance, rest and vacation, safety and welfare according to law. Special labor protection is given to female employees to protect their rights and interests in childbirth or abortion and maternity leave.

New economy enterprises set up women's federations to explore a new model of women's employment

As a representative of Shanghai's online new economy enterprises, Aikucun is actively creating value for society through science and technology. In the four years since its establishment, Aikucun has gathered more than 2 million shopkeepers, creating flexible employment opportunities for more female workers.

On November 3, 2020, Mengxiang Group held the inaugural meeting of Aikucun Women's Federation and the first women's congress. At the meeting, the first executive committee of the women's federation was elected and the CEO of Mengxiang Group was elected as the chairman of the first Aikucun Women's Federation. This is also the first women's federation established by the online new economy platform in China.

On June 24, 2021, through the case of "New Infrastructure of E-commerce Empowers Women Employment and Career Development in the Digital Era" declared by UNIDO, Mengxiang Group successfully stood out among the 700 declared cases from more than 135 countries from all 7 continents and was selected as the best case of the United Nations SDGs. On July 27, the "United Nations 2030 Global Best Practice Seminar on Sustainable Development (SDGs)", guided by the Investment and Technology Promotion Office of the United Nations Industrial Development Organization (China · Shanghai) and hosted by Mengxiang Group, was held in Shanghai to explore new opportunities and challenges for women's growth and development in the decentralized Internet era.

• Improving public employment services for women

According to the different employability and job needs of female job seekers, Shanghai has strengthened public employment services such as career guidance and career introduction for female job seekers through a differentiated service form. It carries out the "Spring Breeze Action" to build a platform for matching women's employment needs, organizes special recruitment activities, and provides policy advice for women. It carries out the "Seagull Plan" to promote the employment of female college students, launches online courses on workplace skills, provides recruitment information, and helps female college students find jobs.

Providing employment assistance to women in need

For women with employment difficulties, Shanghai implements both employment support and market-oriented employment policies, formulates various support policies such as vocational internships, post subsidies, social security subsidies, and job hunting and entrepreneurship subsidies to help them find employment. For women who find it difficult to get market-oriented employment, Shanghai can provide employment through public welfare posts and post subsidies and social insurance premium subsidies according to regulations. By the end of December 2020, there were 29,150 females employed in public welfare posts.

Holding female entrepreneurship activities to create a strong entrepreneurial atmosphere

By holding a women's entrepreneurship theme forum in Shanghai, excellent entrepreneurial women can share and explore their entrepreneurial journeys, and successful female entrepreneurs are invited to share their experiences. On March 8, 2017, International Women's Day, Shanghai Women Entrepreneurs' Alliance was established, becoming a comprehensive entrepreneurship service platform for female entrepreneurs in learning, communication, and incubation. Since 2015, the Shanghai Women's Entrepreneurship Competition has been held for six consecutive years. It hands out awards such as "the most creative entrepreneurship scheme" and "the most potential entrepreneurship project" to female college students and female entrepreneurs to encourage Shanghai women to boldly explore and innovate their entrepreneurship.



Figure 22 Award Ceremony of the 2019 Shanghai Women's Entrepreneurship Competition

• Expanding the space for female makers and provide effective innovation and entrepreneurship services

Shanghai Women's Federation has set up the "Shanghai Female Makers Space", "Shanghai Female Entrepreneurship Base" and "Shanghai Female Innovation and Entrepreneurship Space" in Yangpu and Songjiang to teach innovative and entrepreneurial women, help women who have started a business or have entrepreneurial aspirations, provide systematic financial education, improve their financing operation and financial management ability, and provide professional services for women's innovation and entrepreneurship.

(6) Promoting stable development of enterprises

• Building a policy support chain around the whole life cycle of enterprise growth

Focusing on the innovation needs of the whole life cycle of the growth of science and technology enterprises, Shanghai has established a policy support and service chain of "entrepreneurial team \rightarrow small and micro science and technology enterprises \rightarrow high-tech enterprises \rightarrow small science and technology giants (including cultivation) enterprises". Shanghai gives full play to the supporting role of technological innovation funds for small and medium-sized scientific and technological enterprises in start-ups and small and micro scientific and technological enterprises and supported about 9, 000 enterprises from 2016 to 2020.

• Inclusive tax policies help enterprises develop

Shanghai implements inclusive tax policies, such as the addition and deduction of R&D expenses for high-tech enterprises and technologically advanced service enterprises. The number of enterprises enjoying the R&D fee deduction policy, the R&D fee plus deduction, and the income tax reduction and exemption in Shanghai is increasing every year. In 2020, 28,600 enterprises were entitled to the added deduction of R&D expenses, with a year-on-year increase of 33.37%; the income tax reduced or exempted was 45.825 billion yuan, a year-on-year increase of 19.93%.

Promoting the implementation of flexible credit policies

Shanghai has made comprehensive use of monetary and credit policy tools to promote the implementation of flexible credit policies and support financial institutions to make full use of loans and reduce fees and transfer profits. A number of public data from eight departments such as market supervision and social security have been released to banks in Shanghai. In the beginning of 2021, the Big Data Inclusive Financial Application 2.0 was launched, and the types of online institutions were expanded from just banks to financial markets and insurance companies. Shanghai has launched the "guarantee +" model to support the innovative service scenario of municipal policy guarantee funds and such models as "big data + bank + guarantee" and "credit

insurance + bank + guarantee" to increase the guarantee and credit enhancement support for enterprise financing.

Shanghai increases financial support for "industrial chain and supply chain"

Shanghai has introduced the "credit insurance + bank + guarantee" financing scheme to help foreign economic and trade enterprises actively respond to the impact of the epidemic.

Shanghai supports unsecured credit loans by introducing policy guarantees. The financing scheme targets leading enterprises in the industrial chain and reaches out to small and medium-sized enterprises in the supply chain. Through the professional management of overseas accounts receivable by policy credit insurance, the daily management of credit risk of foreign trade enterprises by banks, and the credit enhancement management of other risks by the guarantee center, Shanghai carries out professional and full-coverage management of foreign trade financing risk, producing a "1+1+1>3" effect.

By expanding the policy coverage, it can support more small and medium-sized foreign economic and trade enterprises. On the basis of the early-stage "single window" pilot, the financing scheme will expand the scope of support from enterprises with an annual export amount of less than US\$5 million to enterprises with an annual export amount of less than US\$30 million to the benefit of nearly 3,000 enterprises.

Supporting enterprises to actively respond to the impact of the epidemic through innovative financing methods. The financing scheme supports foreign economic and trade enterprises to make good use of the credit insurance policy, revitalize the accounts receivable, enhance the order-receiving ability, and provide strong support for enterprises to guarantee orders, expand the market and alleviate the financial pressure caused by loan arrears.

• Strengthening the coordination of information on financial supply and demand

Shanghai actively works to gain a good understanding of the financing needs of enterprises and financial institutions and has established a "list matching mechanism for key industries", and promotes banks to actively meet the financing needs of enterprises. It focuses on the impact of the epidemic on key industries and assists financial institutions in the resumption of work and production in transportation, supermarkets, cultural tourism, and foreign trade. In addition, it interprets financial support policies through bank matchmaking meetings, policy briefings, and press conferences.

• Introducing aid policies during the spread of COVID-19

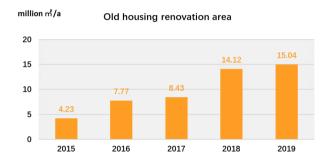
Shanghai is committed to implementing the online training subsidy policy for employees affected by the epidemic and the policies on subsidizing training in the form of work. In 2020, it took the lead in giving online vocational training subsidies for employees affected by the epidemic. In 2021, it continues to implement the online vocational training subsidy policy for employees of enterprises affected by the pandemic and extends the period of the policy on training in the form of work to the end of 2021 so as to further help enterprises reduce costs, improve skills and stabilize the teams.

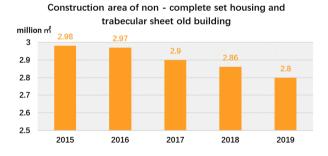
SDG11 Sustainable Cities and Communities



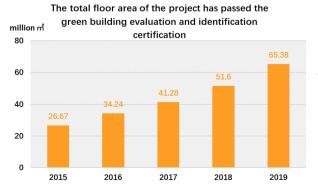
Key indicator

Renovation of old houses





Green building development



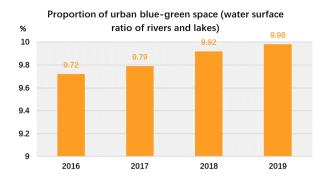
Since 2015,

- 220 million square meters of secondary water supply facilities have been reconstructed.
- **3.15** million households have completed the transformation of facilities in front of electric energy meters
- More than 4,500 old elevators have been overhauled, transformed, and updated.
- The reconstruction of 725 ponding points in residential areas was completed.

in new urban buildings. The green building area accounts for



Sponge city



The proportion of built-up areas meeting the sponge city

requirements is 253.23 km² (by the end of 2020)

The 45 km core section of

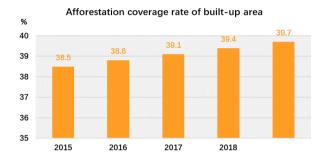
the Huangpu River and the

42 km Suzhou River in the

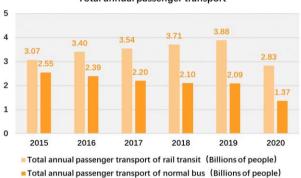
central urban area have been

connected.

Greening and waterfront spaces



Constructing a transit city

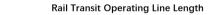


Total annual passenger transport

The proportion of public transport services within a 50meter radius of rail transit stations in the city is



Bus apps can be used on **all** bus lines.





Work Overview

The increase of population not only improves the vitality of the city, but also poses a challenge to sustainable urban space and living environment. Under the goal of Sustainable Cities and Communities (SDG11), Shanghai has continuously improved the living conditions and living environment of citizens through partial residential transformation, "beautiful home" construction, and grass-roots community governance, and carried out the construction of the "two rivers" waterfront area through public transport city construction, sponge city construction, and green building projects to improve urban infrastructure and public space, enhance urban attractiveness and realize urban sustainable development.

Main Progress

The complete transformation of old houses in Shanghai has been steadily promoted, and the living environment of citizens has improved. It has become an important practical project for steady growth, benefiting people, and expanding domestic demand. The living environment and operation safety of old residential areas have been significantly improved. Since 2015, Shanghai has implemented the transformation of 220 million square meters of secondary water supply facilities, completed the transformation of rainwater and sewage pipes in 4,133 residential areas and the transformation of water accumulation points in 725 residential areas, finished the overhaul, transformation, and renewal of more than 4,500 old elevators, and updated the security systems of 12,314 residential areas.

Improving the quality of the urban transit system. The transportation capacity of the rail transit network continues to grow and by the end of 2021, the operation mileage of rail transit in the city will reach 771 km. The integration of the two networks has achieved remarkable results. By the end of 2020, the proportion of public transport services within a 50-meter radius of the city's rail transit stations reached 75.3%, and all public transport lines within 50 meters of the new rail transit stations have been completed. Public transport vehicles have become more energy-saving and environmentally friendly. By the end of 2020, the number of new energy buses in Shanghai increased to about 12,000, accounting for 67.3% of the city's public buses. With the continuous informatization of public transport, seven districts in the central city are equipped with electronic bus stop boards, the prediction accuracy reaches 93%, and bus apps can be used on all bus lines.

The construction of sponge city is progressing smoothly. On the basis of the national portsurrounding pilot sponge city, Shanghai has designated 16 municipal sponge city construction pilot areas, with a total area of about 72 square kilometers. By 2020, 20% of the city's built-up areas met the requirements of sponge city, forming four types of construction models in buildings, communities, and parks together with green spaces, roads, squares, and river systems. The software and hardware of green buildings and green urban areas are leading in the country. By the end of 2020, the total area of green buildings reached 233 million square meters. Shanghai has created 14 green ecological urban areas with a land size of about 40 km2 and has the country's first "three-star certified transportation management in green ecological urban areas" and the country's first building energy consumption monitoring system with the largest number of public buildings, the largest building area, and the most stable operation.

The core sections of the Huangpu River and the Suzhou River are connected on the waterfront. Following the opening of the 45 km core section of the Huangpu River at the end of 2017, the 42 km Suzhou River in the central urban area was opened at the end of 2020, forming a number of high-quality waterfront public spaces with cultural connotations on the southern section of the Binjiang River in Yangpu District and Xuhui West Bund.

Shanghai has achieved full coverage of urban management community offices and is continuous upgrading of urban management services. In 2018, a total of 5,951 urban management community offices were set up, and the "one village committee, one office" community service network covering all villages in the city was completed.

Specific Measures

(1) Carry out renovation and transformation for old residential buildings

Renovating old residential buildings

Aiming at improving the functions of buildings, Shanghai has promoted the transformation of facilities below electric energy meters, secondary water supply facilities, facade renovation, drainage facilities, and aging adaptation. In order to eliminate potential safety hazards, Shanghai has carried out safety assessments, repaired and renovated old residential elevators, and promoted the construction of intelligent security systems.

• Promoting the complete transformation of housing

Complete transformation refers to the comprehensive transformation of old houses planned to be retained, mainly non-complete sets of old workshops, to improve the function of the houses by adjusting the plane layout and spatial layout, adding and improving coal sanitation facilities, demolition, reconstruction, and transformation. In recent years, Shanghai has continuously formulated, improved, and revised relevant documents related to the complete transformation of houses. It has made clear the transformation principles, identification conditions, transformation contents, planning and design, implementation scheme, planning approval, and completion inspection and acceptance.

Demolition and reconstruction project of Lane 222, Wuchuan Road, Yangpu District

There are seven incomplete two-story houses with a brick and wood structure on Lane 222, Wuchuan Road. These buildings were built a long time ago and are now with backward supporting facilities. In addition, Subway Line 18 crosses directly under three of the houses along Wuchuan Road, causing concerns for safety.

In view of the above problems, Yangpu District set up a working group to study and formulate the reconstruction scheme of demolition and in-situ resettlement of residents. The scheme design of the project was carried out in October 2017, the consultation of residents was officially launched on January 3, 2018, and the signing of house selection for all residents was completed on January 21. The houses were completed in April 2020 and residents officially moved in on June 28. The reconstruction project was accelerated by simplifying the approval process, shortening the approval time, and designing the reconstruction scheme in advance, and the reconstruction project was completed before the planned construction time along the subway line.



Figure 23 Features of Reconstructed Lane 222, Wuchuan Road

• Establishing a multi-party supervision mechanism for reconstruction projects

To allow supervision of the whole project, Shanghai passed the "three meeting system" (consultation meeting before project implementation, coordination meeting during project implementation, and evaluation meeting after project implementation), the "ten disclosure system" (disclosure of residents' opinions, repair items and contents, construction teams, supervision and design units, main materials, construction cycle, civilized construction measures, on-site reception and complaint telephone and address, completion acceptance and handover results and project final accounts), and the citizen supervisor system.

(2) Building a high-quality bus transport system

• Promoting the construction of multi-level public transport networks such as rail transit and medium volume transport

In 2021, Shanghai continued to promote the construction of three ongoing projects, including rail transit line 14, line 18 phase I, and Chongming line phase I, with a total length of 83 km, and is

promoting the construction of comprehensive transportation hubs and backbone passenger transport channels in the city. Shanghai will attempt to construct medium volume bus demonstration projects to ensure that the departure interval of the demonstration line is controlled within 3-5 minutes during peak hours, and the rail transit network will continue to increase its capacity by 3% during peak hours this year.

• Increasing the coverage of bus stop electronic boards in the central city and improving bus information service

In 2021, Shanghai has built electronic bus stop boards in seven districts of the central city and promoted the arrival information forecast service of 32 lines and about 654 stops in the suburban new town. The intelligent cluster dispatching system of public transport enterprises will be fully established to improve the accuracy of real-time bus arrival information release and line operation dispatching.

• Continuing to upgrade new energy buses

Shanghai continues to promote the new energy renewal of public transport vehicles and has completed the goal of replacing all buses with new energy vehicles in the built-up area. The city has built more than 5,700 bus charging devices with a total capacity of 554,000 kW. Jiading District took the lead in piloting low-floor hydrogen fuel cell buses, putting six of these into operation on Bus line 114.

(3) Sponge city development

• Shanghai scientifically issuing policies and standards to achieve full sponge city coverage in the city

Shanghai has strengthened the life cycle management of sponge city construction by formulating measures for the management of sponge city planning and construction. It established the sponge city construction index system, standard atlas, technical regulations, estimation index, and other technical standard systems. The Shanghai Sponge City Expert Committee was established to improve the technical guarantee system. It is building a three-level sponge city planning system at the macro, meso, and micro levels and preparing the block sponge city construction plan to realize full sponge city coverage.

Building pilot port-surrounding sponge cities in an orderly way

In April 2016, Shanghai was selected into the second batch of national sponge city construction pilot cities. The pilot area is the port area of Pudong New Area which covers an area of 79 square kilometers. The pilot projects mainly include parks and greening, roads and squares, buildings and

residential areas, river systems, ecological protection, and soil restoration. On the basis of consolidating the results of the pilot construction, Shanghai further promoted the construction of an upgraded sponge city with an area of more than 800 square kilometers in the new port area.

Starry Sky Sponge Park

Starry Sky Sponge Park is located near the port of Pudong, covering an area of 540,000 m2. It is a key demonstration project for the second batch of sponge city pilots in China. The project adopts a new "DBO" model integrating design (survey), construction, operation, and maintenance. The DBO model emphasizes the inherent features of public service, highlights the operation attribute, encourages social capital to take into account both construction cost and operation cost, and realizes the optimal combination of capital and technology.



Figure 24 Ecological Wetland

With sponge technology as the core, the project integrates natural infiltration and purification, regulates and uses rainwater; and connects and purifies the urban water system, which is highly functional and ornamental. The park adopts typical sponge facilities, such as permeable pavements and rainwater gardens to show the public the conventional sponge functions such as initial rainwater purification and rainwater storage. In addition, it also carefully creates a series of special sponge system facilities, including ecological landscape corridors, ecological sponge wetlands, urban rainwater storage and purification, and smart water platforms. On the premise of ensuring the safety of drainage and waterlogging prevention in the park, natural accumulation, infiltration, and purification of rainwater need to be realized to a great extent in the city. It promotes rainwater utilization and ecological protection and releases the stored water to make the best use of it when needed, turning the whole park into a big green "sponge".

• Implementing the "sponge +" project and promoting the construction of sponge cities by category

On the basis of the national port-surrounding pilot sponge city project, Shanghai has designated 16 municipal sponge city construction pilot areas, with a total area of about 72 km2. Through the

implementation of the "sponge +" project, old communities, roads, squares, rivers, water bodies, and green park spaces have been transformed and upgraded.

• Building a sponge city information management platform and promoting the participation of the whole society

Shanghai will build the city's sponge city construction information management platform and establish a sponge city construction project database to timely monitor and evaluate the technical measures for the construction of sponge city and the operation effect of facilities and to form technical measures in line with the regional characteristics of Shanghai. It will build a port-surrounding sponge city exhibition hall to publicize the concept of sponge city construction through various media and enhance residents' sense of gain.



Figure 25 Port-Surrounding Sponge City Exhibition Hall

(4) Promoting the development of green buildings and energy conservation

• Fully implementing the requirements for green building construction and continuously improving the green building system

Shanghai has made clear that all new buildings should fully implement the green building standards and incorporate the green building development requirements into the construction management process. It has prepared the Measures of Shanghai Municipality for the Administration of Green Buildings to comprehensively respond to the reform of the new national standard for green building evaluation, and the local green building evaluation standards were issued to promote green building management in the thinking and way of the rule of law.

• Achieving "three transformations" in the construction of green buildings

Shanghai has realized the transformation of green buildings, from design to operation, from monomer to region, and from new construction to existing renewal. By the end of 2020, Shanghai

had received 49 green building operation identification projects totaling 591 million m2, including Shanghai Tower, National Convention and Exhibition Center, and other green building practice models. The city's six existing renewal areas are being created as green ecological cities.

Shanghai Tower

The Shanghai Tower project is located in the core area of Lujiazui, Pudong, Shanghai, with a height of 632 meters and covering an area of 30,368 square meters, with 127 floors are above ground and five below and a total construction area of 577,864 m2. The building began trial operation in 2014 and won the three-star green building operation logo in 2020. It is the highest green building in China.



Figure 26 Shanghai Tower Intelligent Management Platform

Adhering to the concept of building a super high sustainable green vertical city covering the whole process of design, construction, and operation, the building project adopts outdoor wind environmental impact control, indoor light pollution control, curtain wall energy-saving, multi-energy composite, rainwater reuse, structural optimization, natural lighting enhancement, and whole process control of green construction innovative technology systems such as transportation management based on BIM cloud platform. During the operation of the project, the indoor environment compliance rate reached 100%, the annual utilization rate of the ice storage system was 84.48%, and the annual comprehensive energy utilization efficiency of the triple supply system was 77.56%. 245,000 m3 of rainwater can be reused and 18.1% of the materials are recyclable. The economic and social benefits are remarkable.

• Building an ultra-low energy consumption building development system and improving the energy efficiency of public buildings

Shanghai issued the Implementation Opinions on Promoting the Development of Ultra-Low Energy Consumption Buildings in Shanghai and Regulations of Shanghai on the Management of Ultra-Low Energy Consumption Construction Projects, strengthened energy audit, defined ultra-low energy consumption building policies and technical systems, and encouraged social investment in ultra-low energy consumption building construction through financial support and plot ratio incentive policies. Shanghai promotes the construction of energy consumption monitoring systems for large public buildings and prepares guidelines for rational energy consumption of different types of buildings so as to provide a basis for formulating the energy consumption quota of public buildings.

(5) Building a world-class waterfront area

• Striving to promote the linear connection of riverside public spaces

Since 2002, Shanghai has completed the relocation of nearly 3,500 units in the riverside area, vacated about 750 hectares of land, built about 600 hectares of ecological green spaces in the riverside public space, 45 km of riverside "roads" for walking, running, and riding, and about 40 embedded sports facilities of nearly 35,000 m2.

• Promoting the overall coordination of riverside public spaces with unified planning and zoning

Shanghai adheres to the principle of "unified planning, unified disclosure, and unified guidance", defines the unified construction design requirements by issuing guidance documents such as design guidelines, construction guidelines, and landscape improvement guidelines, standardizes the design size, pavement material, surface color, construction technology and identification system of the three roads for "walking, running, and riding", and promotes the overall coordinated development of public space across the rivers.

• Continuing to inject sports culture to enhance the vitality of the riverside region

Shanghai further injects sports, culture, tourism, and other functions into the core sections of the waterfront public space. A series of sports facilities such as basketball courts and small football fields have been arranged in the area, and major sports activities such as the fitness event of the five riverside districts, Shanghai Marathon and Shanghai Cup Sailing Race, as well as cultural exhibitions such as Industrial Heritage Design and Protection, People's Livelihood Urban Space Art Season and West Bund Music Festival, have been held.

Protection and utilization of riverside industrial relics in Yangpu

Yangpu Riverside Region is located in the northeast of Shanghai. It has a 15.5 km long river shoreline, with a total area of about 15.6 km2, and is known as the birthplace of modern Chinese industry. Within the riverside public spaces in the south section of Yangpu, there are 66 buildings in 24 sites, with a total area of 262,000 m2. In addition, it also has a large number of distinctive industrial relics, equipment, and facilities.

In the process of public space construction, Yangpu Riverside Region pays equal attention to protection and utilization and adopts the design concept of "taking industrial inheritance as the core". Through limited intervention and low impact development, it realized the "reuse" of industrial relics, the "new integration" of paths, the "restoration" of the original landscape, and urban renewal. It not only protects the industrial relics but has also found a way to make the reality and tradition complement each other.

On September 25, 2020, Yangpu Riverside Region, as a national demonstration area for the protection and utilization of cultural relics in the "Shanghai Yangpu Life Show Belt", was shortlisted in the list of the first batch of national demonstration areas released by the State Administration of Cultural Relics. It introduced

national intangible cultural heritage projects, upgraded the building-reading brand activity, increased VR panoramic tour points, improved wireless sensor servers, and added services such as voluntary narration to connect and extend riverside and inland scenic spots and enhance the cultural appeal of riverside public spaces.



Figure 27 Public Spaces on the Yangpu Section of the Huangpu River

(1) Improving the governance efficiency of grass-roots communities

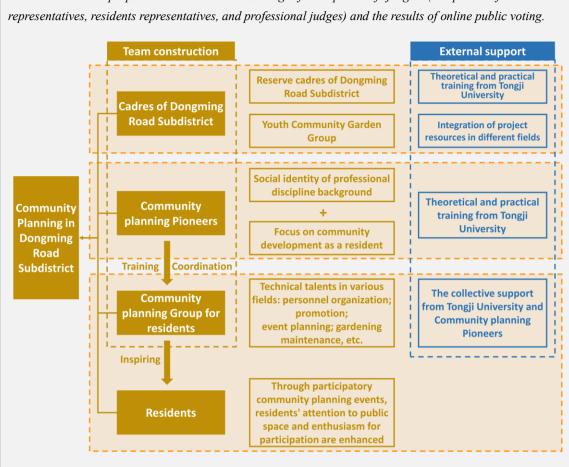
• Enabling sustainable community building through participatory community planning

Shanghai promotes pilot participatory community planning across the city. It focuses on "participatory community planning", cooperates with professional community planners and autonomous community groups to create a living community that is built, governed, and shared by all to improve the residents' sense of participation.

Participatory community planning in Dongming Road Subdistrict

Dongming Road Subdistrict is located in the Sanlin World Expo area of Pudong, covering an area of 5.95 km2. It undertakes the task of resettling residents relocated from major project sites in the central urban area of Shanghai and farmers whose land has been acquired by the government. The total population of Dongming Road Subdistrict is 127,400. The specific measures that it takes to promote participatory community planning are as follows:

Dongming Road Subdistrict mobilizes autonomous community groups and professional social organizations to improve street space quality and service level through scenario creation and digitalization. It has also built a team of participatory community planners and encourages residents with professional knowledge in the community to participate in community planning. Dongming Road Subdistrict has expanded the channels and breadth of public participation, organized planners and residents to complete community proposals, and



selected excellent proposals based on the scoring of the panel of judges (composed of subdistrict

Figure 28 Framework of Participatory Community Planning in Dongming Road Subdistrict

Building urban management and law enforcement community offices to achieve full coverage of grass-roots communities

Shanghai requires subdistricts, towns, and urban management law enforcement departments to set up an office in each neighborhood (village) committee, and each community office shall arrange a law enforcement team member in charge of the daily work. In 2018, community offices achieved full coverage of villages in the city, with the number reaching 5,951. Urban management team members regularly visit communities for inspection and to provide services to residents.

Improving property service standards and market supervision

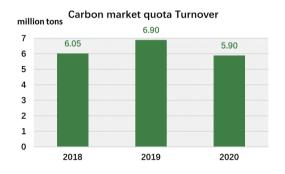
Shanghai has revised the Shanghai Residential Property Service Standard and issued five comprehensive urban management standards involving residential communities, including the Management Standard for Environmental Cleanliness in Public Areas of Residential Communities, to further improve property service enterprises' whole-process supervision system. Shanghai has established a price monitoring information release mechanism and evaluation system for the property service market, set up 16 evaluation institutions and 111 professional appraisers, and organized and guided all districts, subdistricts, and towns to adjust property fees.

SDG13 Climate Action



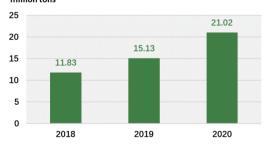
Take urgent action to combat climate change and its impacts

Key indicators

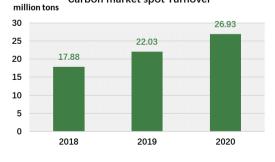


Carbon market transaction





Carbon market spot Turnover



Since the opening of Shanghai Carbon Market in November 2013,

- it has incorporated about 300 emission control enterprises
- and attracted nearly 400 investment institutions.

As of the end of the second quarter of 2021,

• the accumulated turnover of all kinds of carbon products in Shanghai

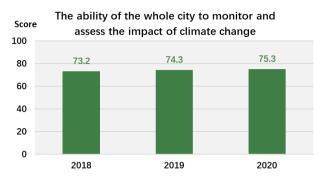
reached 166 million tons,

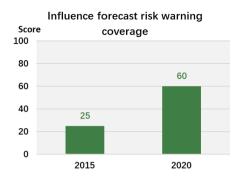
• with a transaction volume of

1.857 billion yuan.

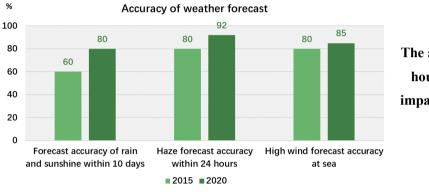
The trading volume of Shanghai's CCER (Chinese Certified Emissions Reductions) accounts for about **41%** of the total trading volume of CCER in China, ranking **firSt** in the country.

Climate monitoring and risk prediction



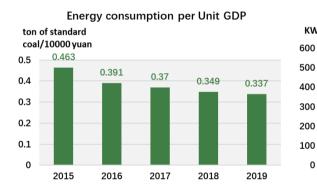


Weather forecast accuracy



The accuracy of the 24hour typhoon storm impact forecast exceeds

80%.



Energy-saving and emission reduction

Promotion of NEVs



By the end of 2020, the number of NEVs in Shanghai

Power consumption per unit of GDP

496.89

KWH/10000 yuan

0

571.45

2015

517.25

2016

was about **424,000**,

ranking **first** in China.

2018 2017 2019

477.63

451.35

Work Overview

Climate change is one of the most important topics in the field of sustainable development in the world today. As a city packed with a huge population, buildings, and economic activities, Shanghai faces the risk of disaster superposition caused by meteorological changes, threatening the safe operation of the city and the safety of people's lives and property. Under the goal of SDG13 Climate Action, Shanghai has recently been focusing on promoting the peaking of carbon emissions, developing a carbon trading market, improving meteorological service capabilities, strengthening its meteorological disaster prevention capability, and promoting NEVs (new energy vehicles). It is playing an exemplary role in responding to climate change as a megacity.

Main Progress

Shanghai has formed a long-term, medium-term, and short-term forecast system, and the accuracy of weather forecasts has been continuously improved. The accuracy (weighted average) of 10-day rain forecasts has increased from 60% in 2015 to 80% in 2020, the accuracy of 24-hour smog forecasts has increased from 80% in 2015 to 92% in 2020, the accuracy of the 24-hour typhoon storm forecasts has always remained above 80%, and the accuracy of offshore strong wind forecasts has increased from 80% in 2015 to 85%, basically reaching the international level.

The ability of disaster weather impact prediction and warning systems has been effectively improved. Shanghai has finished the initial stage of the establishment of the operational technical route of meteorological disaster warning, including four core links: weather element forecast, impact forecast, warning, and coordinated response. The impact forecast and warning services cover key areas such as urban waterlogging, transportation, aviation, ocean, and health. The warning coverage rate of impact risk has been greatly increased, from 25% in 2015 to 60% in 2020.

Shanghai's carbon trading volume ranks among the top in China. Established on August 5, 2008, Shanghai Environmental Energy Exchange (SEEE) is the first trading platform for environmental energy in China. By the end of the second quarter of 2021, the cumulative trading volume of carbon spot varieties in Shanghai was 166 million tons, with a total transaction value of 1.857 billion yuan. The total turnover of the secondary market ranks first in China, and Shanghai's CCER turnover accounts for about 41% of the total turnover of CCER in China, ranking first.

The enhanced control of energy consumption intensity and carbon emission intensity is obvious. From 2016 to 2020, Shanghai has achieved the national carbon intensity control goal of "double control" of energy consumption, and the energy intensity and carbon emission intensity have shown a preliminary trend of decoupling from economic development, laying a foundation for Shanghai to reach the carbon peak goal on schedule. Shanghai's carbon trading system has achieved a 100% performance settlement rate for seven consecutive years, and it is the only pilot area in China that has achieved a 100% performance in each performance year.

The number of NEVs in Shanghai is about 424,000, ranking first in China. By the end of 2020, the number of NEVs in Shanghai was about 424,000, ranking first in China. Since the outbreak of COVID-19, Shanghai has issued a package of policies to promote consumption, which has pushed the consumption of NEVs to a new high. In 2020, 121,000 NEVs were sold in Shanghai, a year-on-year increase of 92%.

Specific Measures

(1) Strengthening urban climate change impact assessment

• Establishing the Shanghai Climate Change Research Center

In December 2012, Shanghai Municipal Government and China Meteorological Administration jointly established Shanghai Climate Change Research Center to study the impacts of climate change on urban disasters, flood control and waterlogging, the rise sea-levels, storm surge, agricultural production, and other natural phenomena and countermeasures, so as to provide basic research and decision-making services for Shanghai to strengthen its adaptation to climate change, and better support and guarantee Shanghai's urban security and economic and social development.

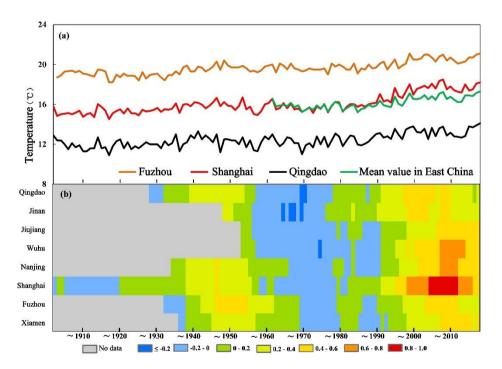


Figure 29 Annual average temperatures (a) of Shanghai, Fuzhou, Qingdao, and East China and 30-year temperature increase rate of the annual average temperatures of eight centennial stations (b, unit of measurement: °C/10 years; ~ 2010 represents 1981-2010, and so on)

• Strengthening the monitoring of climate change and carrying out online continuous observation of greenhouse gases

Shanghai carries out research on the basic facts of climate change. Based on the long-term data of the city's climate monitoring station network, it analyzes the laws of the frequency and intensity of disastrous weather, and comprehensively reveals the latest scientific facts of climate change in Shanghai since 1961 regarding the atmosphere, ocean, vegetation phenology, seasonal change , and climate change impact factors. It has released Shanghai Climate Change Monitoring Bulletin for 8 consecutive years, and greenhouse gas observation stations are set up in Zhangjiang, Fengxian Bay, and Chongming Dongtan to carry out online continuous observation of greenhouse gases.



Figure 30 Exterior of Dongtan Greenhouse Gas Observation Station and Representative Area of CO2 Observation

• Establishing climate change impact assessment models and carrying out climate adaptation initiatives

Shanghai strengthens cross-sector cooperation. It carries out research on the medium and longterm prediction model of power (gas) consumption under Shanghai's meteorological conditions, the quantitative evaluation of climate change adaptation countermeasures in the field of flood control in Shanghai, the risk assessment of climate change adaptation in the field of rail transit, the climate change elasticity assessment in the field of urban health, and the toolset for climate change risk assessment of urban infrastructure.

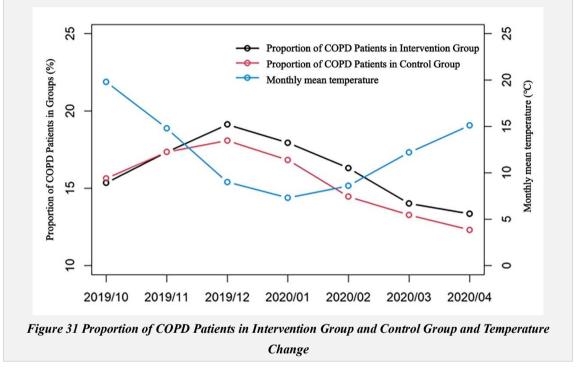
Risk prediction service for chronic obstructive pulmonary disease under climate change

Research carried out by Shanghai Meteorological Bureau found that indoor and outdoor low temperatures, heatwaves, and air pollution increase the hospitalization and death risk of patients with COPD. According to the results of epidemiological research and by drawing lessons from the working experience in Britain, the Municipal Meteorological Bureau has developed the technology of risk prediction for COPD, which can forecast the future risk of COPD at different levels, and remind COPD patients to take appropriate measures

to reduce extreme weather and air pollution exposure and reduce the risk of COPD.

It was found that the risk prediction service for COPD has reduced the visits of patients suffering from the disease. The study found that from December 2019 (one month after the prediction service) to April the next year, the number of patients with COPD in the intervention group was continuously lower than that in the control group. Through the risk prediction of chronic obstructive pulmonary disease, the number of patients in outpatient and emergency treatment in the intervention group was 17.6% lower than that in the control group (95% confidence interval: $1.0\% \sim 31.4\%$).

The analysis found that the risk prediction for COPD effectively reduced the medical insurance cost of patients. Supposing there are at least 1.5 million patients with COPD in Shanghai, it is expected to reduce the medical insurance cost of outpatient and emergency treatments by 17-39 million yuan within half a year.



• Carrying out climate change science popularization through multiple channels

Taking advantage of important activities such as World Meteorological Day, National Low-Carbon Day, Disaster Prevention and Reduction Day, Science and Technology Week of China Meteorological Administration, and Shanghai Science and Technology Week, Shanghai has carried out comprehensive and multi-angle publicity on climate change and science popularization for citizens online and offline around the themes of urban disaster prevention and reduction and adaptation to climate change, so as to create a series of meteorological science popularization brands and improve the scientific literacy of "low carbon awareness" of all people.

(2) Boosting the meteorological disaster prevention capabilities

• Establishing a government-led meteorological disaster prevention system

Shanghai has established a discussion and coordination mechanism for meteorological disaster prevention, created a system of key units for meteorological disaster prevention, standardized the protection responsibilities of key units, seen the construction of meteorological safe subdistricts and towns as a priority area for the city to innovate social governance and strengthen grass-roots construction, and encouraged multiple social players to participate in meteorological disaster prevention. In terms of improving the ability for meteorological disaster monitoring and early warning, Shanghai guides the development of urban meteorological services by legislating impact prediction and risk early warning.

Promoting the closed-loop management of the whole life cycle of meteorological disaster prevention

All urban management departments regard meteorological disaster prevention as an important part of their own emergency plans, forming a horizontal and vertical coordination meteorological disaster prevention system. The meteorological department has developed a smart meteorological support city fine management system, integrated the data of disaster prevention related departments, and developed all kinds of intelligent application scenarios related to meteorological disaster prevention. Shanghai has built a "meteorological plug-in" based on data interface, special meteorological layer, and light application. It is built into the system of relevant meteorological disaster prevention bodies to provide full meteorological data support for their decision-making, command, and dispatch.



Figure 32 Smart Weather Support Urban Fine Management System

Improving the core technical capabilities of meteorological departments

Shanghai has continuously optimized the comprehensive urban meteorology observation methods, improved the standardization and automation level of the observation business, and developed early warning services based on impact prediction. A "one-click" emergency warning and release system has been built to carry out climate change risk assessment and climate carrying capacity analysis in urban infrastructure, human health, energy security , and other fields, so as to improve

the ability of urban climate adaptation and climate security.

Meteorological services under Typhoon Lekima

From 08:00 on August 9 to 08:00 on August 11, 2019, under the influence of Typhoon "Lekima", there was a "general to heavy rainstorm" in Shanghai, and the process rainfall in each district exceeded 150 mm. The maximum wind force in the urban area reached level 9 in Yangpu District, level 11 in the Yangtze River Estuary and coastal areas along the river, and level 13-15 in Yangshan Port Area and nearby coastal waters.

Since August 6, the meteorological department has released relevant information through multiple channels. Through rolling subtitles from TV stations, information on typhoon defense tips is released every 5 minutes, and 4.2 million people are informed by text messages. Shanghai is also releasing various types of information on Douyin, Weibo, WeChat, and other social media platforms.

The meteorological department provides refined services through the smart weather guarantee urban refined management system. The newly-built Meteorological Prophet System for Urban Fine Management in Pudong New Area is connected to Pudong Urban Operation Management Center, and directly serves as the operational platform for typhoon emergency command and urban operation management.



Figure 33 Smart Weather Support Urban Fine Management System ensures the prevention of floods and typhoons in Shanghai

(3) Building a low-carbon city

• Optimizing energy consumption structure

Shanghai continues to improve the level of electrification, increase the proportion of local wind power, photovoltaic and other non-fossil energy power generation, purchase more hydropower and nuclear power from other provinces, and optimize the energy structure and improve the level of energy efficiency while eliminating backward production capacity and reducing scattered coal combustion.

Promoting the optimization and adjustment of industries towards low carbon

Shanghai will resolutely curb the undiscerning development of high energy consumption and high emission projects, strictly implement the total and intensity control of energy consumption and the

control requirements of carbon emission intensity, scientifically evaluate the proposed projects, promote the compression and adjustment of stock projects, and continuously optimize the layout of industrial structure.

• Strengthening basic support capabilities

Shanghai continues to strengthen normalized supervision, continuously improve the online monitoring system for energy consumption of key energy consumers, improve the support policy systems such as science and technology, finance, price, and green finance, strengthen energy conservation supervision and environmental law enforcement, and promote energy conservation and carbon reduction.

• Promoting the construction of low-carbon pilot communities

Promoting the construction of low-carbon community is an important way to guide the low-carbon lifestyle and build a low-carbon city. Shanghai has built two batches of low-carbon development practice areas and the establishment of low-carbon communities, and achieved positive results. In order to continuously promote the construction of a low-carbon city, on August 9, 2021, Shanghai issued a work plan for the establishment of low-carbon demonstration, aiming at innovatively carrying out zero-emission demonstration construction on the basis of existing work.

Construction of Xianyi and Hongxian low carbon pilot communities in Xianxia Subdistrict, Changning District

Xianxia Subdistrict in Changning District actively practices the concept of green development. Aiming at "eco-environmental protection and low-carbon livability", it vigorously creates a low-carbon community. At the same time, it carries out the pilot construction of Shanghai low-carbon communities in two large residential areas, Xianyi and Hongxian.

Improving the low-carbon level of communities through hardware construction. Shanghai is implementing the project of charging piles for electric vehicles into residential areas to support green transportation. It is implementing rainwater collection projects, stores precipitation through water storage equipment, and automatically irrigates plants. Shanghai is also reconstructing porous pavements. It is implementing the energy-saving lamp transformation project in public parts of communities, transforming the 800 m long public wall of Xianyi Trunk Road into a low-carbon art wall, and is installing energy-saving lamps. Shanghai carries out corridor greening and environment-protecting enzyme projects in Xianyi Community, producing natural detergents and cosmetics by processing and fermenting wet waste.

Shanghai encourages residents to make a green shift in their lifestyles. It reduces the number of waste categories and realizes the reduction of resource consumption through proper treatment of kitchen waste. Courses related to low-carbon community capacity-building have been carried out to popularize low-carbon knowledge and teach energy-saving tips to residents in the community.



Figure 34 Reconstruction of Permeable Pavements



Figure 35 Earthworm Composts

(4) Building a carbon trading platform and market

• Establishing and improving carbon trading rules and regulations

In 2011, Shanghai was listed as one of the seven pilot provinces and cities of carbon emission trading in China, and on November 26, 2013, Shanghai Carbon Market was officially launched. Shanghai has formulated and issued management measures to clarify the core management systems and corresponding legal responsibilities of the carbon emission trading market, such as the total amount and quota allocation system and the carbon emission quota trading system. The municipal carbon trading department has clarified the specific technical methods and implementation rules of quota allocation and carbon emission accounting system in the carbon trading market.

Building the Shanghai Carbon Emission Quota Registration System

Shanghai Carbon Emission Quota Registration System is an electronic system that records the ownership relationship of quota holders to their quotas and their ownership change process. It is the basis of quota ownership and the main way for the government and enterprises to carry out carbon emission quota management. Shanghai Carbon Emission Quota Registration System runs independently of the trading system, and realizes data matching with the trading system, thus ensuring the independence of the management system.

• Building the Shanghai Carbon Emissions Trading System

Shanghai Carbon Emissions Trading System is a system platform for enterprises to conduct electronic trading, relying on the network platform and implementing trading according to Shanghai's relevant trading rules on carbon emissions. Shanghai Carbon Emissions Trading System provides three trading modes: listed trading, agreement transfer, and paid bidding. It also provides functions such as quota and fund transfers, information inquiry, and market browsing, and interfaces with Shanghai Carbon Emissions Quota Registration System, the National Carbon Trading Registration System, and the Bank Settlement System.

Innovative financing of carbon quota pledge of the first batch of real economy enterprises between Bank of China and Shanghai Environmental Energy Exchange

Since the Shanghai Environmental Energy Exchange launched the quota pledge business at the end of 2020, it has done 10 carbon quota pledge businesses, with a pledge volume of 1,067,700 tons and a financing amount of over 30 million yuan, which has alleviated the short-term financing problems of carbon assets and nanotube enterprises to a certain extent, helped carbon assets to perform a financing function and promoted the construction of Shanghai's green financial system.

On June 3, 2021, Shanghai Environmental Energy Exchange signed a strategic cooperation agreement with Bank of China, and held the launching ceremony of innovative financing of carbon quota pledge for the first batch of six enterprises. The first batch of enterprises that pledged quotas were Shanghai Shangdian Caojing Power Generation Co., Ltd., Shanghai Yaopi Glass Group Co., Ltd., Shanghai Zijiang Enterprise Group Co., Ltd., Shanghai Sany Heavy Machinery Co., Ltd., Cinic Chemicals (Shanghai) Co., Ltd. and Shanghai Shenhe Thermomagnetic Electronics Co., Ltd. This is a useful attempt and powerful measure for financial institutions and exchanges to serve the development of the real economy in low-carbon life through financial innovation on the eve of the launch of the national carbon emission trading market and under the background of the national "peak carbon dioxide emissions, carbon neutrality" strategy.

• Making breakthroughs in carbon finance innovation

Shanghai Environmental Stock Exchange actively promotes the innovation of products and services in the fields of carbon finance and green finance. Since 2014, it has successively launched carbon market services such as carbon borrowing, repurchase, pledge, and trusts based on carbon quotas and CCER products. In 2017, Shanghai Exchange Stock Exchange and Shanghai Clearing House jointly launched a Shanghai carbon quota forward product, the first carbon forward product in China and the only standardized carbon financial derivative in China so far.

(5) **Promoting NEVs**

• Setting the strategic objective of pure NEVs

Shanghai actively responds to the national strategy for the development of NEVs, and set a clear goal: by 2025, the annual output of local NEVs will exceed 1.2 million, and the output of NEVs will account for more than 35% of the output of the city's automobile manufacturing industry. In addition, Measures for Shanghai to Encourage the Purchase and Use of New Energy Vehicles stipulates that plug-in hybrid vehicles will no longer be issued with free special licenses from January 1, 2023. This has beefed up the basic direction of all-electric vehicles.

• Creating an open and inclusive environment for the NEV industry.

Shanghai encourages and supports foreign investment in key areas of productive services such as new generation information technology, intelligent manufacturing equipment, new energy, and

intelligent networked automobiles, and encourages foreign-invested enterprises to implement industrial transformation and upgrading, and technological transformation. It supports functional institutions such as regional headquarters and R& D centers to take the lead in implementing various pilot measures to expand and open up, and attract global high-quality corporate headquarters to Shanghai.

• Stimulating the consumption of NEVs in light of local conditions

To alleviate COVID-19's impact on the automobile market, Shanghai has introduced policies to promote automobile consumption, subsidized the purchase and charging of NEVs, and supported the application for NEV licenses. These measures have pushed Shanghai's NEV sales up by more than 90% in 2020.

• Building charging infrastructure

Shanghai promotes the construction of charging infrastructure through various innovative measures, evaluates charging stations and charging facility operators, and associates the purchase and use of NEVs by consumers with charging infrastructure construction requirements. By the end of 2020, about 380,000 charging piles had been built in Shanghai, with a vehicle-pile ratio of 1.1:1, far exceeding the national average.

• Smart, efficient supervision based on big data technology

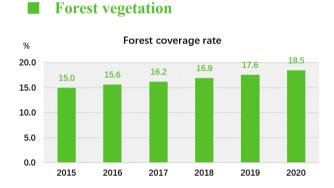
Shanghai has established a public data acquisition and monitoring research center for NEVs. The aim is to collect and monitor data on NEVs, power batteries, charging piles, and hydrogen refueling stations so that vehicle safety monitoring, intelligent traffic management, and tracing of the life cycle of power batteries can be realized in an intelligent and efficient way.

SDG15 Life on Land



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

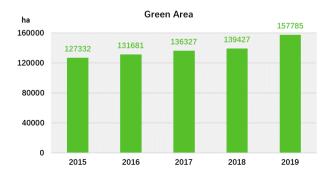
Key indicator

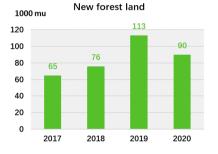


Wetland Reserve 1000 ha 464.6 464.6 464.6 465.5 500 400 300 200 100 0 2017 2018 2019 2020

Wetland and species protection

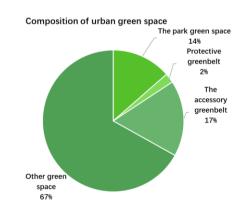


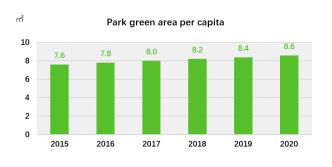




More than 100 million species of fish are released in water bodies like the Huangpu River, Dianshan Lake, the Changjiang Estuary and Hangzhou Bay every year.

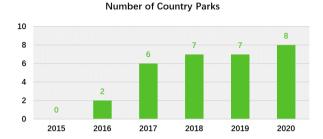
In 2020, more than 283 rare and endangered aquatic wild animals were treated.

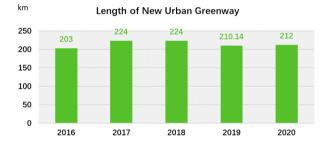




Construction of parks and greenways

In 2020, the number of parks reached 406, an increase of 146% since 2015



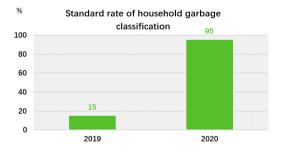


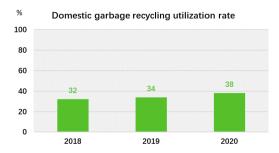
The number of country parks increased from **0 to 8**

From 2016 to 2020, newly built urban greenway reached

1,000km

Classified treatment of domestic waste





The rate of harmless treatment of domestic

waste reaches 100%

As of the end of 2020,

• twelve domestic waste incineration plants have been built, with a designed

capacity of **21,300** tons/day;

 ten centralized wet waste treatment facilities have been built, with a

designed capacity of 5,530 tons/day.

• Shanghai's daily capacity for the disposal and utilization of dry and wet

waste reaches **28,000** tons.

Work Overview

Located at the estuary of the Yangtze River, Shanghai is the largest city in the Yangtze River Basin and an organic component of the Yangtze River Delta ecosystem. Under the goal of SDG 15 Life on Land, Shanghai's practice is closely related to the sustainable development of the city itself, and it also plays an important role in regional, watershed, and larger ecological protection strategies. In recent years, the construction of Chongming World-Class Ecological Island, the protection of estuarine wetlands, the protection of biodiversity, the construction of country parks, the control and restoration of soil pollution, the construction of eco-green integrated demonstration zones, and the promotion of garbage classification have promoted the ecological green urban development, making Shanghai a China model of modern supercity environmental governance in the new era.

Major progress

Shanghai actively promotes the construction of the Yangtze River Delta Eco-Green Integrated Development Demonstration Zone and is making breakthroughs in innovating the demonstration zone system. The executive committee of the demonstration zone, working with the ecological environment, water conservancy (services), and housing construction departments of Jiangsu and Zhejiang provinces and Shanghai city, has formed a special plan for the ecological environment of the demonstration zone and the Special Plan for Joint Protection of Key Transboundary Water Bodies in the Demonstration Zone, improved the intelligent environmental information platform of the demonstration zone, and promoted the construction of ecological environment treatment projects such as Yuandang and Dianshan Lake and special research on key ecological problems.

The Yangtze estuary wetland is protected and treated. Shanghai has established Shanghai Chongming Dongtan Birds National Nature Reserve, Shanghai Jiuduansha Wetland National Nature Reserve, and Shanghai Yangtze Estuary Chinese Sturgeon Nature Reserve. Over the years, more than 160 boats without "the three operation permits" have been removed from the reserve, and a community co-management model involving the management departments, law enforcement units, and fishermen around the reserve has been established.

Shanghai has compiled the Shanghai Biodiversity Conservation Strategy and Action Plan (2012-2030), and has continuously carried out the work of aquatic organism proliferation and release and fishery resources monitoring, releasing more than 100 million seedlings of various economic species in the Huangpu River, Dianshan Lake, the Changjiang Estuary, Hangzhou Bay and other waters every year to supplement the number of aquatic organism resources. In addition, 25 resource monitoring points have been set up in the above-mentioned waters to collect scientific research data and understand fishery resources and ecological conditions of the waters.

Shanghai has basically built a country park system with high-quality open ecological spaces. From the end of 2012 to the beginning of 2021, 8 country parks (Langxia, Qingxi, Changxing, Pujiang, Jiabei, Guangfulin, Songnan and Heqing) have been opened and put into trial operation in Shanghai, and about 38 square kilometers of high-quality open ecological spaces have been built to perform ecological, cultural and tourism functions.

The prevention and control system and supervision of soil pollution in construction land have achieved remarkable results. Focusing on controlling soil environmental risks and stabilizing soil environmental quality, Shanghai has implemented relevant plans, constantly improved its management system, and continuously strengthened its law enforcement supervision. Since the implementation of the Soil Law, there have been no pollution accidents caused by agricultural product overweight as a result of cultivated land pollution or events of adverse social impact due to improper redevelopment or utilization of contaminated plots in the city.

Waste classification has achieved remarkable results, and residents' lifestyles have become greener. Since 2019, the effectiveness of wet-dry waste classification has been significantly improved, and the compliance rate of residential areas and units in the city has increased from 15% to 95% in 2020. 73% of the communities in Shanghai have adopted the holiday delivery mode, and the scoring rate of the provision of bag-cutting and hand-washing devices has reached 93%. Shanghai's waste disposal capacity has been steadily improved, and it is expected to achieve zero landfill of primary domestic garbage by the end of 2021.

Specific Measures

(1) Developing Yangtze River Delta Eco-Green Integrated Demonstration Zone

• Coordinated development of major ecological environment governance projects

The Yangtze River Delta Eco-Green Integrated Demonstration Zone (Demonstration Zone) was inaugurated in 2019, and is located at the junction of Shanghai and the provinces of Jiangsu, and Zhejiang, covering Qingpu District of Shanghai, Wujiang District of Suzhou, Jiangsu, and Jiashan County of Jiaxing, Zhejiang. The demonstration area has promoted the planning and construction of a number of major projects around the idea of ecological and green integrated development. It is rolling out layered supervision. At present, the Yuandang Beautiful Lake Group Construction Project, the Yuandang Ecological Shoreline Connection Project, and the Taipu River Ecological Shoreline Connection Project Demonstration Section are all underway.

Yuandang Ecological Shoreline Connection Project

The demonstration section of Yuandang Ecological Shoreline Connection Project is located in the southeast of Yuandang on the Shanghai-Jiangsu border. It is a cross-domain integrated ecological improvement project with an important demonstration effect in the integrated demonstration area. It is also an important basic project for exploring the transformation of ecological advantages in the demonstration area. Since the establishment of the demonstration area, it has adhered to the basic orientations of "eco-green" and "interconnection and intercommunication", solved problems such as the lack of a communication platform in the original project and the disunity between construction standards and timing, and set up a negotiation platform for cross-domain projects in the demonstration area, unified design and standards, and jointly built the demonstration section of Yuandang Ecological Shoreline Connection Project.



Figure 36 Rendering of Yuandang Ecological Shoreline Connection Project

• Promoting institutional innovation of eco-environmental regional integration

The demonstration area explores the system innovation from regional project coordination to regional integration. Institutional innovation in the field of ecology focuses on solving the problem of divided, isolated rule of cross-regional ecological environments, fully mobilizing the enthusiasm of regional collaborative governance, and realizing systematic and precise governance of the regional environment. At present, the demonstration area continues to prepare three special plans: special ecological environment plan, special water conservancy plan, and special water supply and drainage plan, as well as the construction of integrated systems in the fields of ecological and environmental protection.

Building a smart environmental protection information platform

The demonstration area carries out data collection, analysis, and mining based on big data technology, accurately grasps and scientifically evaluates the implementation effect of environmental protection measures, and strengthens the integration, sharing, and utilization of various data on environmental quality, pollution sources, environmental supervision and ecology in combination with the actual needs and development needs of environmental management. This is done to provide services for data sharing and exchange between different application systems of environmental protection institutions.

(2) Protection and treatment of the Yangtze estuary wetland

• Building Chongming into a world-class ecological island and strictly abiding by the bottom line of resource utilization and development

Shanghai has clearly defined the strategic positioning of Chongming as a world-class ecological island and is strictly controlling the bottom line of land resource utilization, development, and construction. By 2035, the total scale of construction land will be limited to below 265 square kilometers, ecological spaces will reach 1,618.58 square kilometers, permanent basic farmland will cover 810,700 mu, natural wetlands will account for 43%, forest coverage will reach 35%, park green space per capita will reach 15 square meters, and the water-lake surface ratio will reach 10.61%. In the future, wetland-turned land areas will mainly serve as ecological spaces such as cultivated land, forest land, and wetland.

• Chongming Dongtan Birds National Nature Reserve

Shanghai Chongming Dongtan Birds National Nature Reserve is located at the easternmost end of Chongming Island and at the core of the Yangtze River estuary, with a total area of 241.55 square kilometers. Dongtan was included in the list of internationally important wetlands in 2002, and was promoted to a national nature reserve in 2005. Dongtan Wetland has successively cooperated with well-known international and domestic environmental NGOs such as WWF, RSPB, and CEPF, and has launched a series of environmental education and training programs such as the "Volunteer House".

Jiuduansha Wetland National Nature Reserve

Located at the intersection of the Yangtze River Estuary and the East China Sea, Shanghai Jiuduansha Wetland National Nature Reserve is a wetland ecosystem type nature reserve with a total area of 420.20 square kilometers and was promoted to a national nature reserve with the approval of the State Council in July 2005. Jiuduansha focuses on basic scientific research and has carried out basic background investigations on hydrology, meteorology, water quality, PM2.5,

topography, and sediment (soil) successively, providing support for wetland protection planning. Meanwhile, Jiuduansha has also built a wetland law enforcement network involving public security, environmental protection, fishery administration, border defense, and marine police, so as to strengthen the institutional guarantee system of wetland space protection.

(3) Biodiversity protection

• Drawing and observing a red line of ecological protection

Since 2017, Shanghai has been working to draw the ecological protection red line, including important ecological spaces such as nature reserves, wetland parks, forest parks, water source protection areas and important habitats of wild animals into the red line for rigid protection, to evaluate and adjust, and to integrate and optimize nature reserves.

Biodiversity survey and special monitoring

Shanghai has carried out the second national survey of wild animals and key protected wild plant resources, the simultaneous survey of waterfowl in the whole city, the survey of wildlife diversity in parks and green spaces, the survey of bird trade in flower and bird markets, and the monitoring of "the number of waterfowl species accounting for more than 1% of the global population" in the construction of Chongming Ecological Island. 25 resource monitoring points have been set up to carry out aquatic organisms release and fishery resources monitoring.

• Restoring wildlife habitats and strengthening emergency rescue and conservation

Shanghai has carried out a series of important wildlife habitat restoration projects and wetland ecological restoration projects in Pudong's Jinhai, Chongming's Xisha, Jinshan's Langxia, and Minhang's Pujiang. The Shanghai Aquatic Wildlife Rescue Emergency Plan has been formulated to treat rare and endangered aquatic wildlife. New technologies such as drones are used to monitor aquatic organism resources, and the Estuary Acipenser Sinensis Living Germplasm Resource Bank was established to realize artificial conservation of wild animal offspring.

Comprehensive control of smooth cordgrass in Chongming Dongtan Nature Reserve

To control the expansion of smooth cordgrass in Chongming Dongtan, improve the quality of Chongming Dongtan wetland and restore the bird habitat environment, Dongtan Nature Reserve implemented the Smooth Cordgrass Ecological Control and Bird Habitat Optimization Project in September 2013. The total area of the project is about 24.2 square kilometers, with a total investment of 1.16 billion yuan. Up to now, over 95% of the smooth cordgrass is under control, and 23 kinds of national rare and protected birds, such as the Oriental White Stork, White-headed Crane, Tundra Swan, and Black-faced Spoonbill, have returned to Dongtan for wintering. The number of wintering Tundra Swans has increased from 60 recorded in the winter of 2016 to 623 at the beginning of 2021. The project has gained replicable technical experience in smooth cordgrass management, bird habitat construction, project management, and monitoring.



Figure 37 Wild Geese and Ducks Flock in Chongming Dongtan Nature Reserve

• Shanghai banning fishing on the Yangtze River

Shanghai has imposed a 10-year ban on fishing on the Yangtze River and organized special law enforcement actions such as "cracking down on illegal fishing", "clearing and banning fishing boats without official operation permits" and "clearing and banning ownerless fishing nets". After more than three years of centralized rectification, illegal fishing, transportation, and trading of wild fish in the Yangtze River have been effectively curbed, and by the end of 2020, fishing withdrawal has been completed at a high rate.

(4) The construction of country parks

• Overall design and optimized spatial layout

The construction of country parks in Shanghai gives equal consideration to the current situation and planning. On the basis of an analysis of the ecological and cultural resources in the suburbs, Shanghai innovatively introduced the urban planning method and ecological landscape planning concept, planned the production, living and ecological space in the countryside, coordinated the overall layout of ecology, business and culture, and systematically improved the ecosystem service function of the countryside.

Implementing green renovation projects and landscape supporting construction

Shanghai actively explores the implementation path of comprehensive improvement of rural space, completely eliminates pollution sources , and focuses on restoring regional natural ecological functions; for the life community of water, forest, field, lake and grass, it implements ecological function system restoration, comprehensive treatment , and overall protection; it shows

respect for the natural style, do not change the original natural ecological pattern, refrain from altering the original agricultural production, forest and water conservation functions, and restores and maintains the original ecosystem and natural style of water towns in the south of the Yangtze River.

• Multi-party efforts to ensure the realization of ecological product value

Shanghai has established a joint conference mechanism for country park construction composed of relevant professional competent departments at the municipal level to make overall use of policies such as comprehensive land improvement, reduction of inefficient industrial land , and linkage between increase and decrease of urban and rural construction land to ensure the smooth implementation of policies and funds in agriculture, water affairs, environmental protection , and industrial adjustment.

Changxing Island Country Park

Changxing Island Country Park, located in the middle of Changxing Town, Chongming District, is one of the first seven pilot country parks in Shanghai. It has been opened to the public since 2016, with a total area of 5.46 square kilometers in Phase I. After the comprehensive land improvement in the whole region, Shanghai now has 1,540 mu of leveled land, 29,3571 square meters of plant slope protection, 12,286 meters of dredged river course, 20,796 meters of revetment, and 4.44 hectares of land that has been saved from construction. The original spatial layout of the project area has been optimized and the expansion and upgrading of the suburban ecological environment has been achieved. Changxing Island Country Park is characterized by "Nature, Ecology, and Delight in the Wild" and is supplemented by rich cultural events and farming activities, providing people with a way to return to nature for leisure and recreation. By the end of 2020, the number of tourists to country parks has exceeded 4.02 million. It is rated as a national 4.4 tourist attraction and has been selected as one of the 50 best weekend resorts in Shanghai.



Figure 38 Changxing Island Country Park

(5) Risk control and remediation of soil pollution in construction land

• Improving the soil environmental access system

Since 2014, Shanghai has successively established and improved the soil environment access system for the whole life cycle management of industrial land, municipal land, and commercial land, requiring that the contaminated land is investigated, evaluated, treated, and repaired before the transfer, recovery, renewal, collection, storage, and allocation. In 2021, it further integrated and optimized the soil environmental management system on construction land, standardized the relevant activities of the city's soil pollution investigation, and strengthened the supervision during and after the review process.

• Supervising and urging key enterprises to implement the obligation of soil pollution prevention and control

Shanghai formulated and implemented the Plan of Shanghai for Soil Pollution Prevention and Control, completed the investigation of enterprises, ramped up the prevention and control of pollution on heavy metal industries, carried out investigations and environmental remediations of industrial solid waste storage sites, implemented the investigation and remediation of informal waste storage sites, improved the access and safe utilization management of construction land, and completed the pilot application of soil pollution control and remediation technology.

• Devolving responsibilities for soil pollution and putting supervision and assessment in place

Shanghai has established a leading group for eco-environmental protection construction and supervision and has issued and revised the effectiveness assessment methods and supervision regulations such as the "pure land defense war" and the three-year action plan for eco-environmental protection and construction. Since 2019, Shanghai has included the prevention and control of soil pollution into the annual environmental status report, which is reported every year and subject to public supervision.

(6) Promoting household waste classification

• Establishing and improving the domestic waste classification policies and regulations

In 2019, Shanghai passed the Regulations of Shanghai Municipality on Domestic Waste Management, forming a domestic waste management system in Shanghai based on the rule of law, government promotion, national participation, market operation, comprehensive urban and rural planning, systematic promotion, and gradual progress. Relevant government departments have formulated 46 supporting documents in accordance with these regulations.

Building a domestic waste removal system

Shanghai adopts the basic approach of "diversion and classification", and has built a domestic waste removal and transportation system with clear classification of wet, dry, and hazardous waste. Recyclables and hazardous waste are collected and transported regularly or by appointment, wet waste is collected and transported regularly every day, and dry waste is collected and transported regularly. Meanwhile, Shanghai strictly standardizes the collection and transportation operations, prohibits mixed transport, and establishes a supervision mechanism of "no classification, no collection and transportation; no classification, no disposal".

• Increasing the guarantee at the treatment end side.

Shanghai stipulates the main disposal methods for domestic waste. Dry waste is made harmless by incineration, wet waste undergoes biochemical treatment, and is turned into biogas or compost to become harmless, and hazardous waste is made harmless through high-temperature treatment and chemical decomposition. By the end of 2020, 12 domestic waste incineration plants had been built in the city, and all 15 domestic waste terminal disposal facilities projects have started operation.



Figure 39 Laogang Incineration Plant Phase I and Phase II and Laogang Comprehensive Landfill

Qishan Village, Changning District improves the effectiveness of waste classification

Qishan Village, Jiangsu Road Subdistrict, Changning District is a typical old residential area in the center of the city. Things had started to pile up in passageways inside the buildings and littering posed great difficulties to waste classification. Since June 2018, Jiangsu Road Subdistrict has made every effort to promote the classification of domestic waste in Qishan Village by means of party building guidance, resident autonomy, multi-party participation, and digital empowerment. Now, all residents in Qishan Village have been made aware of the requirements of waste classification, and the rate of correct waste placement is steadily increasing. The daily reduction of waste is obvious, and the work has achieved remarkable results. Its main approach is as follows:

I. Making full use of organizations and activities such as the meeting of building leaders, volunteers' meeting, alley council, and the "neighborhood code of conduct" seven-character song to actively promote the classification of domestic waste. II. Recruiting nearly 60 volunteers for waste classification, forming a linear working mode of "neighborhood committee secretary, director, health cadre, block leader, volunteer (administrator)", setting up a red and black list of waste classification, and carrying out the selection of the families best at classifying waste. III. Launching the pilot "AI + 5G" project in enterprises for the removal and transportation of construction (large) waste. Realizing the closed-loop management of "automatic discovery - automatic order distribution - manual disposal - automatic case settlement" of illegal acts such as waste dumping.



Figure 40 Subdistrict waste classification volunteers participating in community activities



Prospects

Shanghai has integrated the concept of sustainable development into its urban strategic plan. The *Shanghai Master Plan (2017-2035)* issued in 2018 fully responded to the concept of sustainable development in terms of the vision system of urban development goals, development model, spatial support, and implementation guarantee. Based on the sustainable agenda framework, this report constructs the logical framework of Shanghai's urban strategic vision system and SDGs system and determines the key measures for Shanghai to realize the 17 sustainable development goals. According to the results of this priority review, Shanghai has further implemented the concept of sustainable development in terms of poverty-free, good health and well-being, quality education, decent work and economic growth, sustainable cities and communities, climate action, and terrestrial biology, made remarkable progress and accumulated rich practical experience.

With the advent of the post-COVID era, Shanghai will still face enormous tasks and challenges to achieve the goal of sustainable development in the future. Shanghai will continue to promote high-quality development under the concept of sustainability, strive to create a high-quality life and realize efficient governance, and build a city where everyone has a chance to shine in life, participate in governance in an orderly manner, enjoy a quality life, feel the warmth of the city, and have a sense of belonging. Shanghai Self-Assessment Report is soon to be published around the world. The preparation of this book will remain a regular part of our urban strategy to continuously promote sustainable development.

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