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LAND, INFRASTRUCTURE, HOUSING AND PUBLIC UTILITIES



Land, Infrastructure, Housing and Public Utilities

Land and Urban Construction Bureau

The Land and Urban Construction Bureau is a government department under the supervision of the Secretary for Transport and Public Works, responsible for studying, planning, launching and implementing policies related to urban planning, land management, utilisation and development. The bureau is also responsible for issuing licences and supervising civil engineering projects, as well as monitoring the safety of electrical installations and mechanical equipment in buildings.

The Land and Urban Construction Bureau comprises four major executive and planning subsidiary units – Urban Planning Department, Land Management Department, Urban Development Department, and Electrical and Mechanical Installations Department, to promote urban construction work such as urban planning, land management, and the approval and supervision of private construction projects.

Macao Urban Planning

Master Plan

Since the promulgation of By-law No. 7/2022 – Approved Macao Urban Master Plan (2020-2040) (hereinafter referred to as the “Master Plan”), in order to support the administration of the MSAR Government, and in accordance with the requirements of the Urban Planning Law and the Rules for the Implementation of the Urban Planning Law, to continue to follow up and evaluate the implementation of the Master Plan after its enactment, in 2024 the Land and Urban Construction Bureau commenced a project entitled “Preparation of Periodic Reports on Aspects of the Master Plan”. The reports will be released to the public at an appropriate time, once prepared.

Detailed Planning

Since the release of the Master Plan, the MSAR Government has commenced detailed planning work for each planning zone in phases, covering Eastern District-2, Outer Harbour District-1, Outer Harbour District-2, Northern District-1 and Taipa Central District-2.

Detailed Planning for Eastern District-2

In March 2024, the MSAR Government completed the compilation of the Detailed Planning for Eastern District-2, which was published and came into effect through By-law No. 8/2024. In April, the Land and Urban Construction Bureau completed the compilation of the related technical report, which was uploaded onto the bureau’s website for public access.

Detailed Planning of Outer Harbour District-1 and Outer Harbour District-2

In 2024, the bureau made active progress with the second phase of Detailed Planning of Outer

Harbour District-1 and Outer Harbour District-2, by proposing land use and utilisation conditions, urban design guidelines and conducting corresponding specialised impact assessments, and compiling the draft of the Detailed Plan and Technical Report.

Detailed Planning of Northern District-1

In 2024, the bureau actively proceeded with the second phase of the Detailed Planning of Northern District-1.

The second phase work included formulating the use of each plot of land in the district, the conditions for construction and guidelines for urban design meeting the terms of the planning proposal; compilation of the assessments of the transportation, landscape and environmental impacts; and compilation of the detailed planning draft and technical report.

Detailed Planning of Taipa Central District-2

The bureau actively proceeded with the first phase of Detailed Planning of Taipa Central District-2, including analyses of the current situation, the detailed planning concept, overall urban design and the initial impact assessments.

The first phase work was completed in October 2024, and the bureau has commenced work on the second phase.

Project Plans

Heritage Impact Assessment and Urban Design of the Area Around Avenida do Dr. Rodrigo Rodrigues

In accordance with the resolution passed on the 44th session of the World Heritage Committee in 2021, the Land and Urban Construction Bureau commenced research on Heritage Impact Assessment and Urban Design of the Area Around Avenida do Dr. Rodrigo Rodrigues. The research unit made an initial submission in December 2022 on the findings of the first phase of the study. In August 2023, the findings of the second phase study were completed; the report was submitted to the Cultural Affairs Bureau in September, and the National Cultural Heritage Administration submitted the report to the UNESCO World Heritage Committee.

Ilha Verde Urbanisation Plan 2024

In accordance with the Macao Urban Master Plan (2020-2040) implemented in 2022, as well as related requirements of the Urban Planning Law, the Land Law and the Cultural Heritage Protection Law and the opinions of related departments, the bureau has been promoting the gradual improvement and development of the Ilha Verde district, improving the living environment for residents, and actively responding to the views and expectations of Ilha Verde residents regarding the development of the district. In addition, the bureau updated the research on planning for small land areas, and introduced the Ilha Verde Urbanisation

Improvement Plan (2024) to the Urban Planning Committee and uploaded it onto the bureau's urban planning information website, enabling the public to clearly understand the planning directions and express their views.

Planning Condition Drafts

Urban planning conditions for districts lacking detailed planning are being compiled by the Land and Urban Construction Bureau in accordance with the Urban Planning Law and the Rules for the Implementation of the Urban Planning Law. During 2024, 43 sets of planning conditions for urbanisation management were issued.

Construction Companies and Contractors

The Land and Urban Construction Bureau is responsible for the registration or renewal of registration of elevators and escalators owned by maintenance entities, inspection entities and temporary inspection entities, and by natural person business owners or companies (involved in construction implementation), contractors (construction implementation), companies or individual business owners (urban construction and urban planning), technicians (elevators and escalators, urban construction and urban planning), and companies (gas) in Macao. The bureau is also responsible for regularly updating information and assessing the statuses of related industries.

As at the end of 2024, a total of 1,623 owners of elevators and escalators – spanning maintenance entities, inspection entities and temporary inspection entities, contractors (construction implementation), individual business owners or companies (construction implementation), companies or individual business owners (urban construction and urban planning) and companies (gas) – had completed registration with the Land and Urban Construction Bureau, which exceeded the 1,449 entities with registered elevators and escalators in 2023. The increase was mainly due to a rise in the number of registrations in the subsumed urban construction sector, and the addition of a new category of lifting equipment entities as the Elevator and Escalator Safety Legal System bill came into effect in April 2024, with details as follows:

Category		Registration	Renewed registration	Total (companies)
In accordance with Law No. 14/2022 and By-law No. 11/2023 (lifting equipment)	Maintenance entities	41	--	41
	Inspection entities	2	--	2
	Temporary inspection entities	6	--	6
	Sub-total	49	--	49

(Cont.)

Category		Registration	Renewed registration	Total (companies)
In accordance with Law No. 14/2021 and By-law Regulation No. 38/2022 (urban construction)	Contractors (construction implementation)	10	168	178
	Individual business owners or companies (construction implementation)	156	1,021	1,177
	Sub-total	166	1,189	1,355
In accordance with Law No. 1/2015 and By-law No. 12/2015 (covering urban construction and urban planning)	Companies or individual business owners	17	147	164
	Fire protection	0	6	6
	Sub-total	17	153	170
In accordance with By-law No. 3/2003 (gas)	Companies	3	46	49
Total		235	1,388	1,623

Technicians

Law No. 14/2022 – Elevator and Escalator Safety Legal System and Law No.1/2015 – Qualification System for Urban Construction and Town Planning stipulate professional classifications for elevator and escalator technicians and technicians. By the end of 2024, the number of valid registrations for elevator and escalator technicians, technicians in the fields of urban construction and urban planning and engineers totalled 1,332, with details as follows. As seven people held two professional qualifications, the actual number of registered persons was 1,325.

Category		New registration	Renewed registration	Total (person)
Escalator and elevator equipment technicians		141	--	141
Technicians (construction and urban planning)	Architects	10	187	197
	Landscape Architects	0	1	1
	Civil Engineers	75	497	572

(Cont.)

Category		New registration	Renewed registration	Total (person)
Technicians (construction and urban planning)	Fire Engineers	0	6	6
	Electrical Engineers	3	102	105
	Electrical and Mechanical Engineers	8	176	184
	Mechanical Engineers	12	97	109
	Chemical Engineers	0	7	7
	Industrial Engineers	0	0	0
	Fuel Engineers	0	2	2
	Engineering Technicians	0	8	8
Total		249	1,075	1,332

Infrastructure Projects

Private Construction Projects

Based on statistics from the Land and Urban Construction Bureau, in 2024 a total of 22 building projects were completed, providing 640 residential units with a total floor area of 44,363 square metres; 53 commercial units with a total floor area of 13,432 square metres; four office units with a total floor area of 431 square metres; 273 private car parking spaces and 131 motorcycle parking spaces, with a total floor area of 13,115 square metres. No building projects involving industrial/warehouse units were implemented during the year.

During 2024, construction commenced of 15 private projects providing 107 residential units with a total floor area of 6,341 square metres, and 27 commercial units with a total floor area of 5,466 square metres. No construction projects involving office or industrial/warehouse units were commenced during the year; and one private car parking space – in a villa project commenced during the year.

At the end of 2024, 2,229 units were under construction, of which 2,069 were residential units with a total floor area of 140,239 square metres, 154 were commercial units with a total floor area of 26,929 square metres, five were office units with a total floor area of 800 square metres, and one was an industrial/warehouse unit with a total area of 1,057 square metres, the same as in 2023; as well as 1,304 parking spaces (1,022 for private cars and 282 for motorcycles) in car parks, with a total area of 34,448 square metres. During the year, 5,867 units were still in the design phase, of which 5,192 were residential units with a total floor area of 386,441 square metres, 594 were commercial

units with a total floor area of 96,149 square metres, 75 were office units with a total floor area of 14,495 square metres, and six were industrial warehouses with a total floor area of 82,068 square metres; as well as 4,704 parking spaces (3,363 for private cars and 1,341 for motorcycles) in car parks, with a total area of 150,390 square metres.

In 2024, 12,351 applications were received for private construction projects, of which 2,972 were for simple projects in common parts of buildings, integrated construction projects for food and beverage establishments, and construction licences, 2,361 were for demolition/maintenance/renovation, and 462 were for construction and expansion projects. During the year, 12,007 applications from 2024 and the previous year were handled, a majority of which were in the above-mentioned three major categories: 2,988 applications for simple projects in common parts of buildings, integrated construction projects for food and beverage establishments, and construction licences, 2,308 applications for demolition, maintenance and renovation projects, and 466 applications for construction and expansion projects.

Construction Document Certification

In 2024, the Land and Urban Construction Bureau's general archive unit handled 5,584 applications for certification of construction documents with approved licences.

Elevator and escalator Supervision

Regarding electrical and mechanical installations, the Land and Urban Construction Bureau is responsible for approving plans related to electrical installations and mechanical equipment, as well as supervising the inspection and maintenance of elevators and escalators, issuing licences for the use of electrical installations, and the installation and operation of large-scale amusement facilities in construction projects.

The Elevator and Escalator Safety Legal System bill came into effect on 1 April 2024. As at the end of 2024, the registration process had been completed for over 10,500 elevators and escalators in operation in Macao during the past three quarters. The industry also made good use of the online service platform of the Land and Urban Construction Bureau, by submitting a total of 3,737 elevator and escalator applications, which included registrations of elevator and escalator information, notifications of compliance with examinations, and notifications of maintenance contracts.

According to the related legislation, the term 'lifting equipment' refers to electric or hydraulic passenger lifts, lifts carrying persons and goods, vehicle lifts, escalators, escalating walkways and lifting platforms carrying persons (excluding purely goods-carrying lifts, conveyance equipment in the manufacturing line of an industrial establishment, and lifting facility of a mechanised car parking system).

In accordance with the full commencement of the legal system related to elevator and escalator and the transitional period from the previous system using the Certificate of Safe Operation, the Land and Urban Construction Bureau has strengthened its publicity efforts by actively introducing the related legal requirements to stakeholders through various channels, including newspapers, radio, television, bus body advertisements, online platforms and mobile apps, appearances on

current affairs programmes, and posting and distributing promotional materials. The bureau held a briefing session on the Elevator and Escalator Safety Legal System bill, inviting government departments, the elevator and escalator industry and members of the public to participate, thereby enhancing their knowledge and understanding of the law, and continuously analysing the views of various parties to make enhancements.

To ensure the safe use of elevators and escalators, 343 inspections were conducted on all elevator and escalator in operation in Macao in 2024; all the inspections were passed. Also, other monitoring work was increased, including: monitoring the maintenance and inspection practices of the related entities, ensuring that the elevators and escalators declared complies with the existing laws and meets the conditions for safe operation, and strengthening the electronic monitoring of the safe operation of elevator and escalator.

The Public Works Bureau

The Public Works Bureau is responsible for assisting in formulating and executing policies related to public construction, as well as studying, planning, constructing and maintaining public buildings, infrastructure, and other large-scale public construction projects, as well as participating in, coordinating, and executing regional cooperation construction projects. It is under the supervision of the Secretary for Transport and Public Works.

Previously known as the Infrastructure Development Office, the Public Works Bureau has implemented the MSAR Government policies regarding the development of public buildings and infrastructure, completing numerous large-scale public projects such as Sai Van Bridge, Hong Kong-Zhuhai-Macao Bridge, the new Hengqin campus of the University of Macau, Qingmao Checkpoint, and the Macao Bridge. With the establishment of the Public Works Bureau, public projects of the SAR Government can be more efficiently and effectively expedited, strengthening cooperation between Macao and neighbouring cities and regions, and constructing a sustainable, high-quality living environment for Macao.

In 2024, the Public Works Bureau actively promoted various public construction and livelihood projects, covering areas such as land reclamation, bridges, public housing, government buildings, public facilities and light rail construction. These included the successful commissioning of the Macao Bridge; the official opening of the LRT Seac Pai Van line and Hengqin Line; the opening of the entire skywalk at Lam Mau; the completion of the Government Housing for Senior Citizens and the public housing on Lots B4, B9 and B10 of New Urban Zone Area A, and the completion of the construction of Macao Outdoor Performing Venue.

Hospitals/Government Buildings/Public Facilities

The Islands Healthcare Complex

The Islands Healthcare Complex is adjacent to the Taipa-Coloane Causeway, with a total land lot area of 75,800 square metres. The construction involves seven buildings, in addition to roads, public squares, vehicle flyovers, footbridges and related infrastructure facilities within the area, with a total floor area of 431,500 square metres. First-phase construction includes: a nursing academy,

staff dormitory building, a hospital complex, an auxiliary building, a general service administrative building and a central laboratory building. All of these were completed and put into operation. As for the second phase, construction of the rehabilitation hospital building began in December 2023. The building has 15 floors and two basement levels, with four pedestrian bridges connecting to the hospital complex and a public bus station. Upon completion, the project would further enhance the capacity of Macao's healthcare services and better meet the health needs of the public.

Government Office Buildings on Lot 12, Outer Harbour New Reclamation Area (Macao Government Office Building Block 1)

Construction of the foundations and basement of the government office buildings on Lot 12 of the Outer Harbour New Reclamation Area commenced in September 2022. Two buildings – one with 12 floors, the other with 21 floors – and an underground car park will be built for government office use.

Government Office Buildings on Lot 25, Outer Harbour New Reclamation Area (Macao Government Office Building Block 2)

Construction of the foundations and basement of the government office buildings on Lot 25 of the Outer Harbour New Reclamation Area has been completed, and the superstructure work commenced in November 2024. Two buildings – one with 12 floors, the other with 17 floors – and an underground car park are being built for government office use.

Public Office Building on Lot Q-1d in ZAPE

The foundation and basement construction commenced in May 2024. An 11-storey government office building and an underground car park will be built on Lot Q-1d in the ZAPE, for offices of government departments.

Base Court Building on Lots C1 to C4 of Nam Van Lake

Construction of the foundations and basement of the Base Court Building commenced in November 2022. An eight-storey building with an underground car park will be built on Lots C1 to C4 by Nam Van Lake, and will be connected to the existing Base Court on Lot C2.

Court of Final Appeal Building on Avenida da Praia Grande

Construction of the foundations, basement and exterior wall support of the in-situ conversion project at the old Court Building on Avenida da Praia Grande and the former Judiciary Police Headquarters on Rua Central has been completed, and the superstructure work commenced in March 2024. According to the design, the building will have three floors and one basement. The old Court Building will be preserved, and some of its interior will be reorganised to serve new functions. Only the street-facing façade of the eastern wing of the former Judiciary Police Headquarters will be preserved, while the rest of the building will be demolished.

Court of Appeal Building on Lots C12 and C14, Nam Van Lake

Located at Lots C12 and C14 of Nam Van Lake, this project will integrate the existing buildings of the Court of Final Appeal and the Court of Appeal, as well as the adjacent land, to construct a new five-storey Court of Appeal Building with three basement levels. Upon completion, the new building will be connected to the existing structures. Construction commenced in April 2024.

Macao Outdoor Performance Venue

To complement Macao's "1+4" appropriate economic diversification strategy and to establish Macao as a "City of Performing Arts", the Government has selected a 94,000 square metre area of state-owned land for the temporary construction of the "Macao Outdoor Performance Venue", which can accommodate audiences of approximately 50,000 people. Located at the intersection of Avenida do Aeroporto (to the northeast) and Rua de Tennis (to the north), the venue was completed in November 2024 and opened to the public.

Road Infrastructure

Construction of Vehicle Flyovers at Rotunda da Amizade (Ramp B)

The second phase of the three-dimensional conversion of the Rotunda da Amizade aims to alleviate traffic congestion in the area during peak hours. Phase 1, involving the ramp A and ramp C viaducts, was completed in November 2022. Phase 2 is underway, involving the 750-metre-long ramp B viaduct connecting New Urban Zone Area A to the Avenida do Nordeste, featuring a pedestrian walkway alongside.

Macao Bridge

As the fourth Macao-Taipa cross-harbour bridge, the Macao Bridge starts from the east wing of Macao New Urban Reclamation Zone Area A, links with the Artificial Island of the Hong Kong-Zhuhai-Macao Bridge, and ends at Macao New Urban Reclamation Zone Area E1. The 3.1-kilometre-long bridge includes an approximately two-kilometre-long cross-sea section. The bridge is designed to support eight lanes, including two in the middle that will be exclusively for motorcycles. The Macao Bridge officially commenced operations on 1 October 2024, serving as an important cross-district link between Macao and the outlying islands and further enhancing the convenience of Macao's cross-district transport.

Bridge Connecting New Urban Zone Area A and Macao Peninsula (A2)

Construction of this bridge was completed in October 2024, in conjunction with the overall development of New Urban Zone Area A; it connects the Macao peninsula and New Urban Zone Area A.

Bridge Connecting New Urban Zone Area A and Macao Peninsula (A3)

Following the completion of bridge A1 and the ongoing construction of bridge A2, as the third vehicle flyover connecting the Macao peninsula and New Urban Zone Area A, bridge A3 will split into four ramps on the Macao peninsula side, connecting to the Friendship Bridge (a), the Friendship Bridge ramps (b) and Avenida da Amizade (c) and the road at the Outer Harbour Ferry Terminal (d), as well as the cross-harbour viaduct between the New Urban Zone Area A and the Macao Bridge. The 750-metre-long project involves a main bridge for two-way traffic, with two vehicular lanes and a ramp bridge for one-way traffic with one vehicular lane. Construction commenced in April 2024.

Vehicle Flyover at New Urban Zone Areas A and B

Located between the Macao peninsula and New Urban Zone Area A, the vehicle flyover for New Urban Zone Areas A and B will connect to the Rotunda de Centro de Ciência and Avenida Dr Sun Yat-Sen at the western end, cross over the Friendship Bridge and the existing watercourse at the eastern end, and terminate in New Urban Zone Area A and link with the Macao Bridge. Measuring 3.2kilometres in total length, the project will include a flyover, connecting road networks at both ends, a footbridge and a pedestrian tunnel. The 1,550-metre-long main bridge will include an approximately 900-metre-long cross-sea section, featuring four navigation channels with a maximum span of around 130 metres. Construction commenced in October 2024.

Common Pipelines in New Urban Zone Area A

Construction of common pipelines in New Urban Zone Area A covers Northern District, Central District, Southern District, the East Axis and the Zhuhai-Macao Port Artificial Island. With a total length of approximately 6.5 kilometres, the common pipelines form a circular layout around the New Urban Zone Area A, supporting public facilities including power supply, water supply, reclaimed water supply, and communication networks. Construction of the Central and Northern District sections is underway. The construction project is in progress.

Public Housing Projects

To meet the people's housing needs, the Government has continued to launch a number of public housing projects since 2007. More than 10 Home-Ownership Scheme Housing and public housing projects were completed, including Edifício do Lago, Taipa; the public housing estates in Seac Pai Van; Bairro da Ilha Verde Building; Rua Central de Toi San; second phase of the Mong Ha Public Housing project; and reconstruction of the sports centre. In 2024, Avenida de Venceslau de Moraes Public Housing Estate and the Home-Ownership Scheme housing on Lots B4, B9 and B10 in New Urban Zone Area A were completed. Public housing currently under construction includes public housing on Lots A5, A6, A10 and A11 in New Urban Zone Area A, as well as Home-Ownership Scheme housing on Lots A1, A2, A3, A4, A12, B5, B7, B8, B11 and B12 in New Urban Zone Area A, which serves as the MSAR Government's reserve for public housing supply.

Government Housing for Senior Citizens

To implement the MSAR Government's plan to build housing for senior citizens, the Government Housing for Senior Citizens at Avenida do Nordeste of Areia Preta has been completed and officially occupied in 2024, providing about 1,815 units and ancillary facilities to meet the needs and aspirations of the elderly.

Rua Oito do Bairro Iao Hon Public Housing

As the pioneer project of Macao's first urban renewal project and the first Sandwich Class Housing Scheme housing project to commence construction, the Rua Oito do Bairro Iao Hon Public Housing commenced construction in November 2024. The project comprises a 30-storey sandwich class housing building and a three-storey basement public car park, as well as commercial and social ancillary facilities, and will serve as an important reference and example for the future development of the Iao Hon Estate.

New Urban Reclamation

In line with Macao's future development and to increase land supply, in 2006 the Government reported its land reclamation plan to the Central People's Government. The whole land reclamation plan received approval from the Central People's Government in December 2009, and the MSAR Government is expediting the land reclamation works. The new urban reclamation area comprises five parts, with a total area of 350 hectares, and is expected to provide Macao with a land reserve lasting 20 to 30 years. Of these, reclamation in Areas A, B, C and E in the New Urban Zone has been completed; and the preliminary work for reclamation in Area D commenced in 2024, including re-measuring the water depth at the reclamation location, sediment sampling and testing, applications for constructing a temporary port and dredging a temporary route, as well as design enhancements, after which the reclamation work will commence.

LRT Project

Seac Pai Van Line

The 1.6-kilometre Seac Pai Van line passes through Estrada do Istmo, Rotunda de Seac Pai Van and Estrada de Seac Pai Van, and has two stations: Seac Pai Van and Macao Union Hospital. The LRT Seac Pai Van line commenced operations in November 2024, marking the official launch of the LRT service connecting the Macao peninsula, Taipa and Coloane.

Hengqin Line

The Hengqin line commenced operations in December 2024. It is an important project for implementing the Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area, and improving connectivity between Macao and cities in the Chinese mainland, as well as the high-speed rail system. The main structure comprises a viaduct, a tunnel under the river, and two stations, with a total length of approximately 2.2 kilometres, including 900 metres are in the

tunnel section. The stations are next to the existing Lotus Flower Bridge Station on the Taipa Line and by Hengqin Station on the basement level of the Hengqin Checkpoint.

East Line

Following the opening of the LRT Taipa line in 2019, the Taipa line connecting to Barra Station on Macao peninsula becoming operational at the end of 2023, and the opening of the Seac Pai Van line and the Hengqin line in 2024, the construction of the East line is now in progress. The LRT East line is approximately 7.7 kilometres long, with six stations, connecting Border Gate, New Urban Zone Area A, New Urban Zone Area E and Taipa Ferry Terminal Station of the existing Taipa Line. With the National People's Congress Standing Committee's approval of the transfer of the jurisdiction of a V-shaped plot to Macao by the end of 2023, the East line station can be located closer to the Border Gate and extended further westward to Qingmao Checkpoint in future, and the MSAR Government is pressing ahead with the related work.

Macao Civil Engineering Laboratory

The Macao Civil Engineering Laboratory was established in 1988, and is a non-profit public legal body engaged in science and technology, which is autonomous in terms of technology, budget and assets. The chairpersons of the Board of the General Assembly and Board of Directors are both appointed by the Government.

The responsibilities of the Macao Civil Engineering Laboratory are to provide civil engineering and related technical support to the Government and relevant industries.

Housing

Housing Bureau

The Housing Bureau aims to fully implement the Government's public housing policy, to assist Macao residents of weak financial standing in meeting their housing needs and rationally allocate public rental housing resources; provide technical coordination and assistance for strata-title buildings management; issue licences to and regulate enterprise owners engaged in strata-title buildings management in accordance with the law; monitor the real estate agency business; and issue relevant licences in accordance with the law.

Home-Ownership Scheme Housing

In the early years, Home-Ownership Scheme housing units were sold to families on the Housing Bureau's waiting list on terms and at prices stipulated in the land grant contracts by the bureau in accordance with Decree-Law No. 13/93/M.

Pursuant to Law No. 10/2011 – The Home-Ownership Scheme Housing Law re-promulgated by Executive Order No. 200/2020, the MSAR Government is responsible for construction of Home-Ownership Scheme Housing while the Housing Bureau or other public authorities appointed by

the Chief Executive are responsible for the execution.

Rationale for Home-Ownership Scheme Housing

Home-Ownership Scheme Housing is intended to assist Macao residents of a particular income level and financial situation to meet their housing needs, and to promote a housing supply that suits the practical needs and purchasing power of Macao residents.

Home-Ownership Scheme Housing Allocation

The general application process for 3,017 housing units began at the end of November 2019. As of 31 December 2024, a cumulative total of 4,211 successful applicants had been selected for substantive vetting, with 3,008 eligible applications, three applications undergoing legal procedures, 880 ineligible applications, 140 withdrawn applications, 167 applications with changed priorities, and 13 applications with ongoing assessments.

The application process for 5,254 housing units was conducted from 14 July 2021 to 30 November 2021. A total of 11,707 applications were received. The priority list and cancellation list were announced on 14 December 2022, with 9,796 accepted applications and 1,911 cancelled applications.

A new phase of the general application process, for 5,415 housing units, was conducted from 27 September 2023 to 27 March 2024, with a total of 6,562 application forms received. On 13 November 2024, the provisional waiting list and the list of disqualified applications were released, with 5,076 applications accepted and 1,486 applications disqualified.

Public Housing

Public housing units are distributed in the form of leasing by the Government to Macao residents of weak financial standing. Families of weak financial standing are defined as those whose monthly household incomes and net asset values fall beneath the legally stipulated levels as stipulated by Executive Order.

The allocation and leasing of public housing are regulated by Law No. 17/2019 – Legal System for Public Housing and By-law No. 30/2020 – By-law of Rules for the Implementation of the Legal System for Public Housing.

Granting of Public Housing

Public housing was open for ongoing application from 20 August 2020 onwards. As of 31 December 2024, after a review of the applications, a total of 5,841 applications were accepted, with 3,288 households allocated housing.

Housing for the Sandwich Class

Law No. 17/2023 - The Legal System for Housing for the Sandwich Class came into effect on 1 April

2024. The Government is responsible for construction of Housing for the Sandwich Class, while the projects are executed by a public institution designated by the Chief Executive. The Housing Bureau is authorised to coordinate the sale of the units and monitor compliance with the law.

Rationale for Housing for the Sandwich Class

Housing for the Sandwich Class is intended to assist Macao residents of a particular income level and financial situation with meeting their housing needs, particularly through helping them acquire housing; and to promote a housing supply that suits the practical needs and purchasing power of Macao residents.

Building Management

The Housing Bureau exercises its supervisory power under Decree-Law No. 41/95/M dated 21 August to manage the common areas of Home-Ownership Scheme housing, and to require relevant parties to fulfil their duties stipulated in the applicable laws and regulations. The Housing Bureau may impose fines on management entities or strata-title building owners who violate their duties as stipulated in the Decree-Law.

The Housing Bureau also facilitates and helps owners of strata-title buildings under the Home-Ownership Scheme with arrangements for setting up management organs and convening the first meetings, and provides technical assistance to owners, management organs and corporate managers of strata-title buildings. In 2024, the bureau handled 3,909 cases of Home-Ownership Scheme management-related affairs, fostered 87 management bodies of Home-Ownership Scheme housing that are already in place and operating effectively, handled 901 cases involving the general assembly of owners of strata-title buildings under the Home-Ownership Scheme and related work, and handled 3,604 cases involving the management of common areas in private housing.

The Housing Bureau also keeps abreast of all necessary renovation and maintenance works for public housing. In addition to public facilities of housing estates, it strives to improve indoor facilities, to improve the quality of life of its tenants, particularly for elderly single people.

Strata Title Buildings Management Commercial Operation

In accordance with the Law on the Commercial Management of Strata Title Buildings effective from 22 August 2018, it is mandatory to obtain a valid licence to engage in commercial management of strata-title buildings. As of 31 December 2024, there were 235 valid licences for commercial management of strata-title buildings.

To align with the implementation of the Law on the Commercial Management of Strata Title Buildings and execution of various tasks, in 2024 the bureau conducted 11 inspections of strata-title buildings, received complaints from strata-title building management company owners, and handled cases referred by other public departments, to monitor compliance with the Law on the Commercial Management of Strata Title Buildings by strata-title building management company owners, and to initiate disciplinary proceedings arising from alleged administrative irregularities.

In 2024, 15 cases involving strata-title building management company owners resulted in penalties for breaking the law.

The Property Maintenance Fund

To encourage and help homeowners to perform their duties regarding maintenance of common building areas, in March 2007, the Government established the Property Maintenance Fund to assist them with inspecting, testing and repairing, and establishing management bodies for the common areas of private housing.

As at 31 December 2024, 512 applications for the seven schemes under the Property Maintenance Fund were approved, with subsidies totalling over 55 million patacas. A total of 6,591 applications have been approved since the establishment of the fund, with subsidies granted totalling 648 million patacas.

Joint Centre for Building Leakage Issues

Through cross-departmental cooperation among the Land and Urban Construction Bureau, Municipal Affairs Bureau, Health Bureau, Legal Affairs Bureau and Housing Bureau, the Government established the Joint Centre for Building Leakage Issues in 2009. The centre provides one-stop assistance to owners of flats that are origins of leaks to encourage maintenance. In 2024, 1,989 cases were filed for investigations; and there was follow up work regarding 3,097 cases, 2,259 of which were completed.

Squatter Area Clearance

To comply with Macao's urban planning policies and the reallocation of land use, the Housing Bureau is committed to clearing squatter camps and relocating affected residents. In 2024, four squatter dwellings were demolished. By the end of 2024, 395 squatter dwellings remained, of which 182 were on the Macao peninsula and 213 in the Islands District.

Real Estate Agency Business

According to the Real Estate Agency Law, which took effect on 1 July 2013, all real estate agents and brokers are required to obtain a valid licence before engaging in business. The Housing Bureau has also set up a unit to follow up applications for licences for real estate agents and brokers, and be responsible for the relevant monitoring work.

As at 31 December 2024, the numbers of valid licences for real estate agents and brokers totalled 1,405 and 4,429, respectively.

Supervision

To facilitate the implementation of Real Estate Agency Law and various tasks, during 2024 about 2,945 inspections were conducted in business premises of real estate agents, to check compliance

with the Real Estate Agency Law by real estate agencies, and to initiate disciplinary proceedings against alleged administrative irregularities. Complaints about real estate agents and brokers were received and cases referred by other public departments were handled in accordance with the relevant laws. During 2024, 64 cases involving real estate agents and six cases involving real estate brokers resulted in penalties for breaking the law.

Land Management

Lands Committee

The Lands Committee is a consultative body to the Chief Executive on land concession matters. The committee is responsible for advising on cases concerning granted land, land use by recipients of land grants, public use of granted land; and granting, renewing, renouncing or cancelling temporary land-occupation licenses.

Land Concessions

According to the Land and Urban Construction Bureau, 17 land concession contracts were completed and four orders for land exchange were issued in 2024. These contracts were as follows:

- Lease concessions: 10 contracts, involving an initial area of 1,819,278 square metres, a newly granted area of 1,511,722 square metres, returned land area of 32,270 square metres, and a total area of 3,298,730 square metres.
- Long-term leases: three contracts, involving a total floor area of 1,653 square metres;
- Special purpose concessions: two contracts, involving a newly granted area of 5,289 square metres;
- Gratuitous concessions: two contracts, involving a total floor area of 8,731 square metres; and
- Returned land: four contracts, involving a total floor area of 369,402.35 square metres.

The land concessions granted in 2024 were mainly for residential, commercial, industrial, hotel, car parking, social facility and other development uses. No land was granted for office use. In 2024, the land concession revenue totalled 839,108,625 patacas, which included 290,702,429 patacas as land security liabilities and 548,406,196 patacas from premium receivables. During the year, the total actual income from land concessions received was 1,504,968,691 patacas, of which the actual premium income totalled 604,074,351 patacas, exclusive grants totalled 7,228,340 patacas and income from land auctions totalled 893,666,000 patacas (as some premiums are paid in instalments every half year, the income receivable in a year differs from the actual amount received).

The Council of Architecture, Engineering and Urbanism

The Council of Architecture, Engineering and Urbanism (CAEU) has been established according to Law No.1/2015 – Qualification System for Urban Construction and Town Planning, in order to accredit and register holders of professional degrees in 13 subjects: civil engineering,

architecture, electrical and mechanical engineering, electrical engineering, mechanical engineering, environmental engineering, urban planning, chemical engineering, transport engineering, fire engineering, landscape architecture, industrial engineering and fuel engineering.

According to the aforementioned legal provisions, application for accreditation and registration is only open to those who have been approved for completion or exemption of field training, and have passed qualifying examinations. During 2024, 106 people were approved for professional registration; they were from eight disciplines: civil engineering, architecture, electrical and mechanical engineering, electrical engineering, mechanical engineering, urban planning, environmental engineering and fire engineering. From the law coming into effect in 2015 until the end of 2024, accredited professionals in the 13 disciplines totalled 2,852, with the breakdown as follows:

Professions	Numbers of registered professionals (2024)	Numbers of registered professionals (2015-2024)
Civil Engineering	62	1,207
Architecture	8	433
Electrical and Mechanical Engineering	11	353
Electrical Engineering	8	324
Mechanical Engineering	14	293
Environmental Engineering	1	98
Urban Planning	1	62
Chemical Engineering	0	22
Traffic Engineering	0	19
Fire Engineering	1	19
Landscape architecture	0	17
Industrial Engineering	0	3
Fuel Engineering	0	2
Total	106	2,852

In 2024, 101 practitioners of various professional disciplines received council approval to join internships. As at the end of 2024, the number of practitioners since the law came into effect was 1,096, with details as follows:

Professional Discipline	Number of Interns (2024)	Number of Interns (2015-2024)
Civil Engineering	53	571
Architecture	13	156
Electrical and Mechanical Engineering	14	157
Electrical Engineering	9	106
Mechanical Engineering	9	74
Environmental Engineering	2	17
Urban Planning	1	9
Fire Engineering	0	3
Landscape architecture	0	3
Total	101	1,096

A total of 39 practitioners of various professional disciplines received council approval to register as internship instructors in the respective professional fields. As at the end of 2024, the number of instructors since the law came into effect was 732, with details as follows:

Professional Discipline	Number of internship instructors (2024)	Number of internship instructors (2015-2024)
Civil Engineering	18	326
Architecture	2	116
Electrical and Mechanical Engineering	5	121
Electrical Engineering	9	76
Mechanical Engineering	4	61
Environmental Engineering	0	16
Urban Planning	1	6
Fire Engineering	0	6
Chemical Engineering	0	1
Landscape architecture	0	1
Fuel Engineering	0	2
Total	39	732

In 2024, 119 practitioners of ten professional disciplines were approved to complete internships or exempted internships to be eligible for the qualifying examination. As at the end of year, the total number since the law came into effect was 637 from nine professional disciplines, with details as follows:

Professional Discipline	Number of practitioners eligible for qualifying examinations (2024)	Number of practitioners eligible for qualifying examinations (2015-2024)
Civil Engineering	61	344
Architecture	20	91
Electrical and Mechanical Engineering	16	82
Electrical Engineering	8	54
Mechanical Engineering	8	41
Urban Planning	0	5
Environmental Engineering	2	12
Fire Engineering	1	2
Landscape architecture	1	2
Chemical Engineering	2	4
Total	119	637

In accordance with Law No. 1/2015 – Qualification System for Urban Construction and Town Planning, persons in the private sector who have completed at least two years and not less than 3,200 hours of internship in a relevant professional discipline and obtained examination candidateship, and those public administrative workers who hold a professional degree in a relevant discipline, having been engaged with the relevant profession for at least three consecutive years, and have obtained a waiver of internship from the council, are eligible to sit for the qualifying examination of the relevant professional discipline. The CAEU held five qualifying examinations during 2019-2023, with 226 candidates passing the examination and obtaining professional qualifications. The 2024 qualifying examinations – written tests – were held at the end of the year and in early 2025, and were attended by 232 candidates from eight professions: architecture, civil engineering, electrical engineering, electrical and mechanical engineering, mechanical engineering, environmental engineering, landscape architecture and chemical engineering. Only those who passed the written test would be eligible for the second-phase professional interview.

Urban Planning Committee

The Urban Planning Committee, established in accordance with Law No. 12/2013 – Urban Planning Law, serves as the Government’s consultation body and is responsible for discussing and providing opinions on compiling, implementing, reviewing and amending urban plans; advising on the scope for issuing urban planning conditions according to the law; initiating discussions and providing suggestions to the Urban Development Strategy Study; by-laws and draft bills related to urban planning; urban planning technical requirements and guidelines; and other matters assigned by the Chief Executive.

During 2024, the Urban Planning Committee followed up regarding and discussed the urban plans concerning 43 projects. During the year, the committee members participated in a number of workshops, including the workshop on the draft detailed plans of Outer Harbour District-1 and Outer Harbour District-2, the workshop on the draft detailed plan of Northern District-1, the first phase outcome of the detailed plan of Taipa Central District-2 and the latest planning proposal of Ilha Verde Urbanisation Plan, to gain a better understanding of the information on and progress with the projects and to provide professional advice to improve the process of compiling the detailed plans.

Urban Renewal Committee

The Urban Renewal Committee, established in accordance with By-law No. 5/2016 – Urban Renewal Committee, serves as an advisory body of the Government on formulating urban renewal policy, and is responsible for coordinating between urban renewal policy strategies and other sectorial policies; launching policy management measures and urban renewal campaigns; anticipating the effects of implementing urban renewal measures and actions; conducting research and providing solutions and recommendations on urban renewal related by-laws and draft bills and regulations.

Cross-department Committee to Coordinate and Follow-up on Urban Planning

The Cross-department Committee was established in accordance with By-law No. 5/2014, to liaise and follow up regarding the compilation, review, revision and assessment of implementation of urban planning. There are eight members of the Committee. They are the Director of the Land and Urban Construction Bureau, who was appointed as the coordinator, and representatives from the Cultural Affairs Bureau, the Municipal Affairs Bureau, the Transport Bureau, the Public Works Bureau, the Environmental Protection Bureau, the Housing Bureau and Macao Government Tourism Office.

In 2024, the Committee advised on the detailed planning for Outer Harbour District-1, Outer Harbour District-2 and Northern District-1, as well as the compilation of the detailed planning for Taipa Central District-2.

Water Disposal System

Macao’s water disposal system includes the independent networks of the Macao peninsula, Taipa, Coloane and the new Hengqin campus of the University of Macau. Details are as follows:

Water Drainage Systems in 2024										
Zone	Type	Public sewer system (metres)				Rainwater drains (units)	Public sewage inspection pit (manhole) system (units)	Public rainwater pipe outlets (units)	Outlet valves (units)	Pumping stations (units)
	Sewage piping	Rainwater piping	Combined piping	Flow interceptors (rainwater and sewage)						
Macao		114,423.21	130,920.99	59,662.98	18,255.23	17,624	13,575	180	22	37
Taipa		33,293.89	51,518.10	429.98	13,889.07	4,246	3,484	57	0	20
Coloane		34,738.48	38,408.63	0	24,161.25	3,410	2,799	62	2	24
New Hengqin campus of the University of Macau		820.48	3,968.08	0	2,582.67	15	200	3	0	4
Total		183,276.06	224,815.80	60,092.96	58,888.22	25,295	20,058	302	24	85

The Drainage Division of the Municipal Affairs Bureau is responsible for cleaning and dredging the drainage systems of Macao, inspecting and monitoring their operations, making improvements, and registering relevant information.

During 2024, the Drainage Division received 3,005 complaints related to sewage systems, 34.4 percent more than in 2023. In addition, the division cleared and cleaned over 231,000 metres of public sewers and over 37,800 rainwater catch pits in various districts in 2024. The division conducted more than 1,180 inspections of grease traps in food premises, issued over 132 on-site records for places with malfunctioning grease traps, conducted over 720 inspections of construction site drainage, and prosecuted 30 cases involving illegal polluting.

Slope Maintenance

To enhance monitoring of various slopes in Macao, the Government set up a slope safety task force in 1995, to conduct regular onsite slope inspections, and classify the slopes based on the risk levels, to identify areas for strengthening and maintenance. Regarding private slopes, the responsible unit

liaises with the related property owners, in order to implement measures in accordance with the advice of the inter-departmental slope safety assessment.

Members of the inter-departmental slope safety assessment task force comprise engineers from the Public Works Bureau, the Land and Urban Construction Bureau, the Municipal Affairs Bureau and the Macao Civil Engineering Laboratory. The Public Works Bureau and the Municipal Affairs Bureau are responsible for maintenance of roads and slopes, respectively.

According to statistics from the Public Works Bureau, there were 284 risky slopes in Macao during 2024. During the year, the Public Works Bureau conducted two slope improvement projects, and the Municipal Affairs Bureau followed up regarding three slope improvement projects.

Number of slopes / risk	High	Medium	Low	Total
Macao peninsula	0	38	90	128
Taipa island	0	22	50	72
Coloane island	0	19	65	84
Total	0	79	205	284

In 2014, the Government began setting up an automatic slope monitoring system at Taipa Grande. The system effectively provides real-time monitoring of slope data. The real-time data on slope dislocation, subsidence and cracks is sent to the Macao Civil Engineering Laboratory and the Public Works Bureau, enabling early precautionary measures and alerts.

The second monitoring system in Macao, at Mount Fortress slope slot, commenced operations in 2020, to better support the real-time monitoring on the Macao peninsula and the Islands District.

Surveying and Mapping Cartography and Cadastre Bureau

The Cartography and Cadastre Bureau is supervised by the Secretary for Transport and Public Works. It specialises in setting up and maintaining the Government's Geodetic Control Network and Geometric Levelling Network. In addition, the bureau supports land-management activities, drafts maps of various types and scales, and maintains the cadastre management.

Cadastre Management

The Cadastre Division of the Cartography and Cadastre Bureau has operated a cadastral database since 1983. The bureau also produces cadastral maps in accordance with the provisions of the Cadastre Law (Decree-Law No. 3/94/M, enacted on 17 January 1994). The division continuously updates related information. The Cartography and Cadastre Bureau launched the Cadastral Information Net in 2008 and an online shop for cadastral maps in 2011. In 2019, the Cadastral Information Net became accessible on mobile devices. In 2021, the digital cadastral map service

was launched.

The Cadastre Division also provides survey information from its database to landowners who need to re-measure land boundaries for valuation, transaction or development purposes.

Land Surveying and Cartography

The Cartography and Cadastre Bureau provides a wide range of land survey and cartography services. It also provides topographical maps at various scales with Chinese and Portuguese footnotes, digital cartography of Macao, aerial photos taken in 1941, 1980, 1988, 1993 and 1998, posters, the map of the Macao SAR and its peripheral regions, and thematic maps.

Satellite Positioning Reference Station

To ensure that the satellite positioning services can effectively cover all areas of Macao, the Cartography and Cadastre Bureau established four continuously operating Global Positioning Satellite (GPS) reference stations – at Mount Fortress, Alto de Coloane, Taipa Grande on Taipa island and the University of Macau – in 2002, 2005, 2008 and 2016, respectively. The reference stations can receive both GPS signals, data from the Russian GLONASS system (Global Navigation Satellite System) as well as BeiDou Navigation Satellite System (BeiDou), supporting the applications and development of land, cadastral and engineering surveys of Macao, as well as data collection for the Geographic Information System (GIS).

The satellite positioning reference stations provide three main services. The first two provide satellite observation data download services and automatic coordinate calculation services through the Macao Satellite Positioning Reference Station Service (mosref.dsc.gov.mo) launched in 2009. The other is an NTRIP (Networked Transport of RTCM via Internet Protocol) service launched in 2012. Real Time Kinematic (RTK) corrections were provided to professional users through 3G mobile communication and internet technologies, enabling them to use real-time GPS applications that are accurate to within a centimetre. In 2021, the Reference Station Service website was optimised and began providing satellite reference data from the BeiDou Navigation Satellite System for public use.

In 2013, the bureau and Hong Kong's Lands Department shared data from their own satellite positioning reference stations. The bureau also expanded the coverage of real-time dynamic positioning services to the waters between Hong Kong and Macao and the western part of Hong Kong, thereby providing a more stable and reliable satellite positioning service to all users.

Geographic Information System

In response to society's needs, the Cartography and Cadastre Bureau has introduced various kinds of geographic information systems, including the Cadastre Information Web (cadastre.gis.gov.mo), a comprehensive land information platform that combines information from various departments on land and buildings. Users can inquire about land grants, easement and commitment, buildings, locations, drawing easement, plans for urban conditions, prior approval for buildings under

construction, maximum altitude for buildings in the neighbouring area of the Guia Lighthouse, lists of historic urban areas and heritage under conservation, boundary of the special administrative region, planning zones, planning of land use, and other pertinent information. In addition, the website contains statistical data, executive procedures and laws related to land. By the end of 2024, the website had received over 2.05 million visitors since its launch in 2008. The website supports desktop and mobile devices, meeting the needs of different users.

The Macao Online Map (webmap.gis.gov.mo) provides geographical information to meet citizens' everyday needs in traditional Chinese, simplified Chinese, Portuguese and English. Citizens can search for 60 kinds of useful information on everyday life, including on buildings, streets, government departments, tourist spots, food and beverage, and emergency shelters in Macao – catering to needs including health care, food, housing, transportation, sports and entertainment. The Macao Online Map features a Walking Routes Map, which includes recommended walking routes and related tourist attractions. In 2020, Macao 3D Map was launched. This supports mobile devices, allowing the public to visualise a three-dimensional picture of the whole of Macao from multiple viewing angles. Since its launch in 2001 till the end of 2024, the online map had received more than 9.21 million visitors.

In line with the development of information technology and in response to public demand, in 2012 the Cartography and Cadastre Bureau introduced the Macao GeoGuide iOS/Android app. In addition to searches for buildings, streets and street numbers, the application also allows users to search for nearby points of interest and share information about attractions, and can show aerial photographs and offline maps, providing on-the-go geographic information required by users. An updated version of the Macao GeoGuide was published in 2023, adding search functions for LRT routes, further optimising route planning function, providing users with five different travel options – walking, leisure walking, bus, LRT and driving. A satellite image layer was also added, to enrich the map browsing experience.

GeoGuide for Emergencies is a geographical iOS / Android app that enables the public to obtain the latest emergency-related geographical information through their mobile phones. It was launched by the Cartography and Cadastre Bureau with the support of the Unitary Police Service, the Meteorological and Geophysical Bureau (SMG), the Environmental Protection Bureau, the Marine and Water Bureau, the Education and Youth Development Bureau (DSEDJ), the Social Welfare Bureau and the Municipal Affairs Bureau. GeoGuide for Emergencies provides the public with important geographical information about regions that may be affected during all levels of storm surges, as well as areas that are expected to be affected by the suspension of power, emergency shelters, assembly points for people with limited mobility/places to stay during an emergency evacuation, pre-planned walking routes to the nearest emergency shelters, and real-time alerts about bad weather, real-time water level monitoring data, real-time maritime information and risk/disaster prevention guidelines.

To support the development of a smart city, the Cartography and Cadastre Bureau launched the Applications Programming Interface for Geographic Information service in 2021, providing a programming interface for map services across Macao. The latest online maps of Macao are displayed through webpages and mobile apps, and a new “Points of Interest” thematic service was added in 2024, which provides various thematic layers of geographic information for users,

including government services, tourism and entertainment, culture and recreation, public health care, and transport thematic data, boosting the circulation and value-added application of geographic information.

The Cadastral Information Net (intranet version) provides real-time land information for public works, housing, land planning and management, environment supervision and municipal administration. As well as information available on the Cadastral Information Net, the intranet version provides Government departments with information such as forms of land use, aerial photos and satellite photos over the years, land area and housing record codes.

In 2020, the Information Centre of DSCC Applications was launched. This provides key services, geographical statistical data, geospatial information, and a three-dimensional map covering the entire Macao. These services enable the public to obtain the latest practical information on geography and land registration through their mobile phones, at any time.

Electric Power

To continue enhancing the power distribution facilities, the new Refuse Incineration Plant Substation and the Oriental Pearl Substation commenced operations in 2024. The new Refuse Incinerator Plant Substation supports the third phase expansion of the Macao Refuse Incineration Centre, while the Oriental Pearl Substation meets the electricity demand of the Government Housing for Senior Citizens and the housing projects on Lot P in Areia Preta, and shares the load of the nearby substations. To support the construction of New Urban Zone Area A, the main structure of the 110 kilovolt high-voltage substation on Lot A7 has been completed and the major equipment is being installed, with completion and commencement of operations scheduled for 2025. In addition, the construction of the Barra High Voltage Substation adjacent to Avenida Panoramica do Lago Sai Van has commenced, to meet the growing demand for electricity in the Barra district.

Regarding electricity bill subsidies, the MSAR Government continued the temporary measure of providing a monthly subsidy of 200 patacas to each residential unit in 2024, to alleviate the burden of electricity bills on residents.

Natural Gas

The Government continued optimising the natural gas pipeline network, connected the Macao-Taipa cross-harbour gas supply pipeline, and completed the interconnection of the main pipeline network to the northern and southern parts of the Macao peninsula. Following completion of the construction of the cross-harbour gas pipeline laid across the Macao Bridge, the valve chambers at both ends of the cross-harbour pipeline and the associated connecting pipelines will be constructed. Upon completion, a dual-loop gas supply will be achieved, further ensuring the stability and safety of gas supplies. The Government continued expanding the coverage of the Macao Peninsula gas pipeline network, while encouraging large hotels, tourist facilities and businesses to prioritise or switch to natural gas. By the end of 2024, 31.8 kilometres of the project to construct a 34-kilometre natural gas trunk pipe network on the Macao peninsula had been completed, representing an approximate 94 percent completion rate, and a 97 percent completion rate for the natural gas trunk pipeline network spanning all Macao.

Utility Tunnels

The Environmental Protection Bureau continued to assist in expediting the construction of the common pipeline in New Urban Zone Area A.

Energy Efficiency and Conservation

Regarding the promotion of adopting environmentally friendly vehicles, the Environmental Protection Bureau and relevant departments continued to promote and implement measures to introduce and promote environmentally friendly vehicles according to schedule, and implemented the Electric Vehicles Promotion Scheme in Macao. By the end of 2024, there were 12,302 electric vehicles in Macao: 6,480 light vehicles, 1,239 heavy vehicles, 3,003 heavy motorcycles and 1,580 light motorcycles.

Since the launch of the scheme for installing electric vehicle charging stations in public car parks, the installation of charging facilities in public car parks has continued progressing. As of the end of 2024, a total of 2,913 public charging stations had been installed, including 2,273 charging stations for light vehicles (in 60 public car parks and along six public roads) and 640 charging stations for motorcycles (in 49 public car parks). In addition, nine public car parks have installed cabinets for exchanging electric motorcycle batteries. The Environmental Protection Bureau has been in communication with the relevant departments to review the effectiveness of the scheme and to install additional charging facilities for electric vehicles and electric motorbikes in suitable public car parks, in accordance with the growth of electric vehicles and the utilisation of charging stations.

To further promote the use of electric vehicles and encourage users to charge during off-peak hours, the MSAR Government announced Executive Order No. 66/2024 to adjust the charges of charging facilities for vehicles, which reduced the charges for medium- and fast-speed charging with effect from 1 May 2024, and brought forward the off-peak hours for slow charging.

Since the launch of the large-scale replacement of smart meters in 2021, it was planned that 50,000 meters would be replaced by smart meters every year, so that all electricity meters in Macao would be smart meters by 2025. As of the end of 2023, smart meters accounted for 99.9 percent of all electricity meters in Macao, basically achieving the expected target.

To promote the application of renewable energy and act as a role model, the MSAR Government has installed solar photovoltaic systems in suitable public buildings, with the total capacity of the project managed by the Environmental Protection Bureau totalling about 1,600 kilowatts. In 2024, the photovoltaic system of the sewage treatment plant of the Macao Cross-Boundary Industrial Zone (with an installed power of 230 kilowatts) was completed; for part of the facade of the new Administration Building of the Macao Central Incineration Centre, new photovoltaic curtain wall materials have been adopted, and photovoltaic systems have been installed on the rooftop and outdoor car parks; the photovoltaic system project of the Praca do Porto de Pac On in Taipa (with an installed power of 570 kilowatts) is in the design stage; and the construction of the photovoltaic systems for the public housing on lot B4, B9 and B10 in New Urban Zone Area A (with installed power of 150 kilowatts) is nearing completion.

To promote the installation of the photovoltaic systems in the private sector, the Government

created incentives through feed-in tariffs and photovoltaic power contracts, encouraging the installation of related systems to gradually expand the use of green energy. As of the end of 2024, 32 enquiries had been received, regarding projects for private, school, commercial and industrial buildings, public utilities and public departments. Nine of these cases have already been connected to the grid for sale of electricity, with a total installed capacity of 3,226 kilowatts.

Drinking Water

Macao Water Supply Company (or “Macao Water”)

Established in 1935, the Macao Water Supply Company (Macao Water) is a private enterprise in Macao which provides a safe, reliable and quality water supply service. The company signed a 25-year water-supply concession contract with the Government in 1985. In 2009, the contract was extended for 20 years, to 2030.

Raw Water Supply

Macao’s raw water supply from Zhuhai has two main components: the southern pumping station opened in 1988 and part of the Zhuyin Pumping Station opened in 2007. The two stations are connected by the Guangchang Pumping Station. The layout of the whole system is shown in the map below.



kilometres upstream, which was extended to Pinggang pumping station. In 2011, it was extended to Zhuzhoutou pumping station.

The green labels identify reservoirs, including the Outer Harbour Reservoir, the Seac Pai Van Reservoir and Ka Ho Reservoir in Macao, and Zhuxiandong Reservoir, Nanping Reservoir, Shedikeng Reservoir in Zhuhai. To mitigate salinity effects, the Zhuyin Reservoir was built in Pinggang, with an effective volume of 40 million cubic metres, and became operational in autumn 2011.

The pipeline with yellow labels is the fourth raw water pipeline, which began supplying water to Macao in the fourth quarter of 2019. The pipeline is connected to two DN2000 bypass pipelines from Guangchang Pumping Station at the rear of Hongwan Pumping Station. After being pressurised at the Guangchang Pumping Station, the raw water is directly transmitted to the Seac Pai Van Reservoir.

The pipeline with red labels is the second Ping Gang-Guang Chang raw water pipeline which was jointly constructed by Guangdong and Macao, and began supplying water in October 2020. This enables the West to East Water Diversion Project in Zhuhai and Macao to achieve dual-line operation, with a daily water supply capacity of two million cubic metres, significantly enhancing Macao's ability to ensure water supply security.

In 2024, Zhuhai supplied about 287,000 cubic metres of water to Macao each day, which totalled 105.07 million cubic metres of raw water during the year. The water quality was certified as Grade II, according to mainland China's Environmental Quality Standards for Surface Water (GB3838-2002), except during occasional salt tides in winter and spring.

Water Treatment, Storage and Transportation

Macao's water treatment capacity is currently 520,000 cubic metres per day. The combined storage capacity of Macao's reservoirs (including the clean water pond and high pool in the water treatment works) is 94,000 cubic metres. In 2024, the total length of main pipelines was 687 kilometres.

At present, the total available volume of Macao's cistern was 2.64 million cubic metres, including 1.6 million cubic metres in the reservoir near the Outer Harbour, 740,000 cubic metres in the Ka Ho Reservoir and 300,000 cubic metres in the Seac Pai Van Reservoir, which is equivalent to Macao's water consumption for about 10 days.

A total of 102.93 million cubic metres of water were supplied in 2024, 5.9 percent more than in 2023. The daily average volume supplied was around 281,000 cubic metres, with a maximum of 313,000 cubic metres recorded on 10 July. In 2024, the total capacity of water sales was 94.12 million cubic metres, with a daily average of 258,000 cubic metres.

Testing Water Potability

The Macao Water Laboratory and Research Centre shoulders the responsibility of testing water quality, and ensuring the quality of water supplies. On a daily basis, the Laboratory and Research Centre and Municipal Affairs Bureau Laboratory jointly analyse random water samples taken from water processing plants and sampling points of pipelines every day. The quality of water from the

water processing plants has always reached the standard specified in the contract signed with the Government and the potable water standard stated in Annex One of the Macao Drainage Regulations. In addition to water quality monitoring and testing of treated water, the Laboratory and Research Centre of Macao Water also monitors the quality of raw water supplies from Zhuhai to Macao and reservoirs in Macao, and issues warnings if pollution is detected; and provides firsthand information on raw water for production purposes, to ensure the water is safe for consumption.

In 2000, the Laboratory and Research Centre was issued a Laboratory Accreditation Certificate of ISO/IEC17025 Standard by the China National Accreditation Service for Conformity Assessment (CNAS).

Over the years, the Laboratory and Research Centre has achieved distinguished results in the inter-laboratory sample checks administered by its parent company - Lyonnaise des Eaux Group, and has been repeatedly regarded as a reference laboratory within the group.

Customer Services

Macao Water promptly and properly handles customer enquiries and provides customer services through a consolidated customer information system. Over the years, it continues to improve its services by providing convenient payment and enquiry services, exploring communication channels for customers, and actively fulfilling its corporate social responsibility.

Macao Water has continued to develop a variety of payment platforms that allow customers to pay charges flexibly. It has launched several convenient electronic services, including an official website, QR codes in water bills, electronic billing, a safe email box co-established with the Macao Post and Telecommunications Bureau, an official WeChat account, mobile payment, Macao One Account and online ticket collection, allowing residents to easily handle water supply services.

Macao Water set up a customer liaison group and a customer service unit in 2000 and 2012, respectively, to closely liaise with customers and understand their opinions on water supply services. To raise public awareness about saving water, Macao Water fully supports the Government in the new water charges system, which was introduced on 1 January 2011. This was the first time an itemised and sliding scale of water tariffs was launched, and a waiver of fees was offered for the first five cubic metres of water used by senior citizens with financial difficulties and individuals who receive the Social Welfare Bureau's single-parent or medical subsidies or subsidies for the disabled.

As at the end of 2024, Macao Water had 275,197 customer water meters, in 241,436 households, 31,007 companies and 2,754 municipal affairs institutions.

Supporting Sustainable Development

As a public enterprise, Macao Water has taken up the social responsibility of caring, environment protection and sustainable development. Its corporate social responsibility committee is responsible for leading and supervising the consistent execution of sustainability initiatives in the company's operations and decision making. Since 2010, Macao Water has published an annual sustainable development report, as specified in the requirements of the Global Reporting Initiative (GRI), leading

to Macao Water being awarded the “Content index service” logo. Macao Water was honoured with the Best Sustainability Report for a Non-listed Company in Hong Kong ESG Reporting Award in the past, including the Best Sustainability Report Award for a Non-listed Company - Grand Award in 2019; the Best Sustainability Report Award for a Non-listed Company, Excellence in Environmental Positive Impact and Excellence in Social Positive Impact in 2020; and the Best GRI Report in 2021; and the Community Engagement Excellence Award and Women Empowerment Leadership Award in 2023.

Starting from 2000, Macao Water was awarded the CNAS-CL01 (in compliance with ISO/IEC 17025) Accreditation Criteria for the Competency of Testing and Calibration Laboratories by Laboratory and Research Centre of Macao Water, ISO 9001 Quality Management System Accreditation, an ISO 45001 Occupational Health and Safety Management System certificate, an ISO 14000 Environmental Management certificate, an ISO 22000 Food Safety Management System Certificate, an ISO 50001 Energy Management System certificate, and an ISO 27001 Information Security Management System certificate.

Power Supply

Companhia de Electricidade de Macau

Historical Overview

Companhia de Electricidade de Macau (CEM) is a public utility company with the sole concession to generate, transmit, distribute and sell high, medium and low voltage electricity in Macao. The total capacity of CEM’s power generation equipment is 408 MW.

From 1906 to 1972, the electricity supply service was managed by the Macao Electric Lighting Company, headquartered in Hong Kong. In 1972, the company was replaced by CEM.

CEM was restructured with the former Portuguese administration’s support in 1982. In 1984, CEM was linked to the Guangdong Power Grid through two 110 kilovolt overhead lines. Cables of the power grid were modified, upgraded and added multiple times in 2006, 2007, 2008, 2015 and 2022. As a result, there are eight 220 kilovolt power cables with a transmission capacity of 2,800 MVA, as well as four 110 kilovolt power cables with a transmission capacity of 500 MVA.

In November 2010, the Government and the CEM signed a contract stipulating a 15-year extension to power supply services. The new contract terms came into effect on 1 December 2010.

Since 1987, the Government, which was previously the largest shareholder in CEM, has reduced its holding to just eight percent. Currently, 63 percent of CEM’s shares are owned by two major shareholders: Nam Kwong Development (HK) Limited, which holds 42 percent, and Energy Asia Consultancy Limited, which holds 21 percent. Moreover, Polytec Industrial Limited and Asiainvest (IP Holding) hold 11 percent and 10 percent, respectively. China Power International Holding holds six percent of the shares, and other investors own the remaining two percent.

Electricity consumption in Macao increased rapidly during the 1990s. In 1998, CEM decided to invest in developing Coloane B Power Station, which uses multi-cycle gas turbine technology.

Conditions of Operations

In 2024, CEM's capacity peaked at 1,129.1 megawatts on 6 August, 5.7 percent above the peak capacity in 2023.

The Macao electricity transmission network comprises 29 primary substations, eight high-voltage substations and 1,084 kilometres of 66 kilovolt high-voltage cables, 110 kilovolt cables and 220 kilovolt cables. Connected by eight primary 220 kilovolt transmission lines and four backup 110 kilovolt transmission lines, the Guangdong-Macao electricity network forms a power transmission network structure with three 220 kilovolt interconnections – in northern, central and southern Macao – for power transmission in Macao.

The 11 kilovolt medium-voltage electricity transmission network comprises 1,787 user transformer rooms and 45 user substations, connected by 2,809 kilometres of cables. The low-voltage transmission network comprises 1,057 kilometres of cables, while the street lighting network comprises 698 kilometres of cables and 17,498 streetlights. CEM's power network almost entirely comprises underground cables.

Electricity Output and Consumption

CEM generated 537.3 gigawatt hours of electricity during 2024, representing an increase of 23.4 percent from 2023. The amount of electricity imported from the Chinese mainland was 5,501.8 gigawatt hours, representing an increase of 3.3 percent over 2023, and accounting for 88.2 percent of total electricity consumption; and electricity purchased from the Macao Central Incineration Centre totalled 193.6 gigawatt hours. CEM's sales for 2024 totalled 6,023 gigawatt hours.

Customer Services

CEM established the CEM Customer Liaison Committee in 2000. With its members coming from 25 different community organisations, the committee serves to reflect public views of CEM's services, and to receive and make suggestions for improvement. At the end of 2024, CEM was providing services to 283,239 households. The Macao peninsula accounted for 79.99 percent of the total customer base; Taipa, 13.9 percent; Coloane, 6.04 percent; Cotai, 0.02 percent; and Hengqin, 0.05 percent.



Local de Espectáculos ao Ar Livre de Macau
Outdoor Performance Venue

可容納
超過50,000人

Seating capacity for
over 50,000 people

Area total: 94,000 m²

澳門戶外表演區

Local de Espectáculos ao Ar Livre de Macau

Macao Outdoor Performance Venue

Total area: 94,000 m²

Area total: 94,000 m²

總面積：94,000 平方米

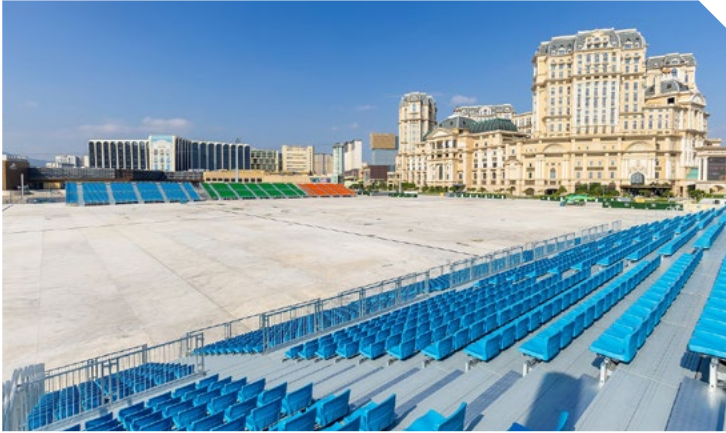
可容納 超過50,000人

澳門旅遊有限公司

Seating capacity for over 50,000 people

Macao Outdoor Performance Venue





To support Macao’s “1+4” appropriate economic diversification strategy and to establish Macao as a “City of Performing Arts”, the MSAR Government has designated a piece of state-owned land covering 94,000 square metres as a temporary venue for Macao’s outdoor performance. With a capacity to accommodate up to 50,000 spectators, this venue aims to attract more international-standard performing arts events to Macao. The venue was completed and delivered for use in November 2024. On 28 December, the “Macao Outdoor Performance Venue Pre-Opening Concert” was successfully held, receiving a positive response from the public.